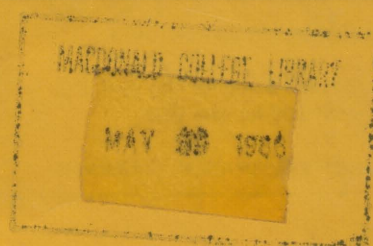


THE MACDONALD JOURNAL

MAY
1986



THE MACDONALD JOURNAL

**FEBRUARY
1986**

Volume 47, No. 2
May 1986

Editor:

Hazel M. Clarke

Publications Committee:

Co-ordinator: Laurence Baker
Hazel M. Clarke
Professor Bruce R. Downey
Professor E.R. Norris

Regular Contributors:

Emeritus Professor R.H. Estey
Department of Plant Science
for "Fun Fact Fable Fiction"

Dr. A.F. MacKenzie
Associate Dean, Research
for "Seeking Solutions"

Tom Thompson & Kathy Whitehurst
Martlet House
3605 Mountain St.,
Montreal, Que.
H3G 2M1
for news from the Graduates' Office

Cover Design by:

John Starkey, cover photo by André Virly

The Macdonald Journal is published quarterly (February, May, August, November) by the Macdonald Extension Service of the Faculty of Agriculture of Macdonald College of McGill University.

Material in this issue may be reprinted editorially without permission; however, credit to the Macdonald Journal would be appreciated. Address all inquiries to the Editor, Box 284, Macdonald Journal, Macdonald College, Quebec, H9X 1C0.

Second class registration number 0463.

Subscription rates are \$6.00 for one year. Outside Canada — \$10.00 for one year.

Printed by Harpell's Cooperative, Gardenvale, Quebec.

This Issue

	Page
A fascinating trip through Professor Grant's Genetics Laboratory	2
Professor Peter Schuepp tells us of his important research on acid fog	6
What is the effect of acid precipitation on soils asks W.H. Hendershot	8
Will the taste of maple syrup be but a memory? Read A.R.C. Jones on	10
It's that time of year when things start "bugging you"	12
Professor Stuart Hill describes a non toxic pesticide	14
Bill Tierney's marvelous account of Mac's rugby team on tour is on	15
The early, innovative days of adult education, Part II, as told by Alex Sim	17
In conversation with a Visiting Scholar from China	19
Macdonald Woodsmen: a winning tradition	22
Woodsmen alumni: part of the team	24
Meet three Gold Key recipients	26
Mac alumni invite us to head east this summer!	28
Dr. Norman Lawson, McGill Coordinator discusses the recent Canada-Egypt — McGill Agriculture Response Program	30
This year's guest speaker for Founder's Day was Mitzi Steinberg Dobrin	32
An undercover story of particular interest to vegetable growers	34

Features

Fun Fact Fable Fiction	16
Diploma Corner	38
PS	39
Seeking Solutions	40
Newsmakers	42

Cover Story

Spring is the farmer's and the gardener's New Year; they have been planning for it for months. This issue is filled with seasonal articles on research of particular interest to the farmer and/or gardener. Our lead article "Genetic Manipulation Takes Many Forms for Crop Improvement" is an account of the research being undertaken in our Genetics Laboratory and our cover shows Graduate Student Susan Delafield transferring cultures of species of *Impatiens* to fresh media in the laminar flow hood under sterile conditions. Further on in the issue is an indepth look at the use of agricultural plastics as field growing aids for vegetable production. With the heightened awareness of the serious consequences of the effect of acid rain and fog on our forests, rivers, lakes, and soils, the articles by three Macdonald professors who are part of a team conducting research in this vitally important area will be of particular interest. As Professor Hendershot says, "let's hope that our next research objective is to follow the improvements caused by the reduction in acid emissions by both Canadian and American industries and public utilities."

The following organizations or individuals
are
financially sponsoring
The Macdonald Journal

BANK OF MONTREAL

CIBA-GEIGY SEEDS

division of

CIBA-GEIGY CANADA LTD.

INTERNATIONAL STOCK FOOD COMPANY LIMITED

RALSTON PURINA CANADA INC.

Dr. Donald McQueen Shaver

of

SHAYER BEEF BREEDING FARMS

Genetic Manipulation Takes Many Forms for Crop Improvement

The 'Genetics Laboratory' is the domain of Professor W. F. Grant, of the Department of Plant Science, and his students who are carrying out research in diverse areas of Genetics. These studies range from transferring genes by hybridization and embryo culture, to biotechnology using tissue culture techniques. In between are studies which resolve the relationship of species by their chromosome and enzyme patterns, so that specific hybrids can be created. Studies on "environmental mutagenesis" are also being carried out using higher plants to test for the genetic effects of environmental pollutants.

Birdsfoot Trefoil

Major studies in progress are with the forage legume, Birdsfoot Trefoil (*Lotus corniculatus*) used for pasture, hay, and silage. Within the last 30 years this species, introduced into North America from Europe, has emerged as a successful forage crop in eastern Canada and the United States and is also used extensively on new highway slopes for improving soil, controlling erosion, and beautification. Birdsfoot trefoil is quite adaptable to soil conditions and will grow on droughty, infertile, acid or mildly alkaline and saline soils. It is also more resistant to waterlogged soil conditions than alfalfa and does not cause bloat in cattle.

Research at Macdonald College has played a major role in its development as a commercial crop. But there is still room for improvement. Some of the problems include its lack of seedling vigour, the dehiscence of the seed pods as soon as they are mature causing seed loss, and its indeterminate growth, whereby the plants do not mature all at once and continue to produce seed over a period of time. The latter condition makes collecting the seed difficult and, therefore, expensive.

Lotus Seed Bank

Wild *Lotus* species have been col-

lected from throughout the entire world-wide range of the genus, and some 800 accessions are being maintained as germ plasm for future studies.

Interspecific Hybridization in the Genus *Lotus*: An Attempt to Transfer Seed Shattering Resistance To Birdsfoot Trefoil

When a valuable character is difficult to find in a crop species, it is

sometimes possible to locate a desired character in some wild related species. Methods are available, such as rescuing embryos through embryo culture on artificial media, to permit the production of viable plants, even from crosses between different species. Thus, such an approach provides a method to transfer genes or characters to a commercially valuable crop.

This is basically the method which Graduate Student Louise



Dr. W.F. Grant with Louise O'Donoghue discussing the technical procedures for the removal of anthers from the flowers of Birdsfoot Trefoil for the successful production of hybrid *Lotus* plants.



Graduate Students Louise O'Donoughue and Pierre St-Marseille discuss an emascula-
tion technique for the removal of anthers from the flowers of Narrowleaf Birdsfoot Tre-
foil (*Lotus tenuis*).

O'Donoughue is using to transfer resistance to seed shattering into Birdsfoot Trefoil. A wider use of Birdsfoot Trefoil in Quebec has been hindered primarily because of the high cost of the seed which is expensive to produce as the plants possess pods which readily shatter before and during harvesting. As a result, there is considerable loss of seed.

The related species *Lotus coim-briensis*, *L. ornithopodioides* and *L. burtii* exhibit reduced or no pod shattering; however, they are diploid species. That is, they have half the number of chromosomes of the tetraploid species, Birdsfoot Trefoil. Therefore, making direct artificial crosses between the diploids and Birdsfoot Trefoil is difficult.

In order to solve this problem, Louise has crossed the above species with the species *L. alpinus* and *L. japonicus*, which also have the diploid chromosome number, but are known to be more closely related to Birdsfoot Trefoil. The hybrid plants will be treated with a compound called colchicine which has the ability to double the chromosome number by interfering with cell division. The resulting plants, called amphidiploids, will then be used in repeated crosses with Birdsfoot Trefoil in order to transfer the shattering resistance trait to Birdsfoot Trefoil,

while maintaining the other valuable agronomic characters.

During the course of this project, Louise will collect data on the morphology and fertility of the hybrids and amphidiploids by means of cytological studies. This will provide information on the relationships between the different species used and add to the ongoing study of the genus *Lotus* being carried out in this Laboratory.

A Cytogenetic Study of Trisomy in Narrowleaf Trefoil (*Lotus tenuis*)

Graduate Student, Pierre St-Marseille is relating genes to specific chromosomes in Narrowleaf Trefoil, a species closely related to birdsfoot trefoil, in a manner similar to that which has been done for wheat improvement. Narrowleaf Trefoil is an important pasture legume on low-to-heavy and imperfectly-drained soils in eastern North America, Oregon, and California. Pierre hopes to relate the plants desirable characters (genes) to locations on specific chromosomes. Thus, the aim of this study is to develop plants called trisomics, which have one more chromosome than Narrowleaf Trefoil plants. By this method the extra chromosome will reveal the morphology of the genes carried by this extra chromosome.

The establishment of a trisomic series in a diploid species such as Narrowleaf Trefoil ($2n = 12$) is a three step procedure. The first step consists in inducing autotetraploids ($4x = 24$), that is, to double the chromosome number. Then intercrossing between diploid and tetraploid plants must be performed in order to obtain triploids ($3x = 18$). Finally, triploids have to be selfed and backcrossed to diploids to produce primary trisomics ($2x + 1$). The first two steps have been successfully performed, and the last step is expected to be done during the next year. By locating specific characters on the chromosomes, for example the character which controls pod shattering, then it will be easier to transfer this character, and other desirable characters, into the economic species Birdsfoot Trefoil.

Isoenzyme Electrophoresis in *Lotus*

Birdsfoot Trefoil is believed to have originated as the result of hybridization between two other species of the genus *Lotus*. Graduate Student John Raelson is characterizing the isoenzyme patterns of Birdsfoot Trefoil and several other *Lotus* species.

Enzymes are proteins which act as catalysts for biochemical reactions. The nature of these enzymes, and the reactions they mediate, determines the form and characteristics of an organism. Like all proteins, enzymes are large molecules built of smaller units called amino acids. There are 20 types of amino acids. Deoxyribonucleic acid (DNA) is another type of large molecule located in the chromosomes. A gene is a section of the DNA molecule with a unique combination of units called bases (cytosine, guanine, adenine and thymine) that comprise the information necessary for the cell to make a protein. The sequence of bases in the gene corresponds directly to the sequence of amino acids in the protein. Thus, if we could measure the amino acid composition of an enzyme, we could look indirectly at the nature of the gene.

Electrophoresis is a technique for separating large molecules in an electric field. Different amino acids have different electrical charges, and an entire protein has a net electrical charge which is determined by the types of amino acid of which it is made. When a solution of proteins is

placed in an electric field, the different types of protein will move at different rates depending on their net charge and amino acid composition, and so become separated.

In isoenzyme electrophoresis, one examines several enzymes which are common in plant metabolism. One enzyme at a time is examined under the electric field. If a specific enzyme is separated into distinct types (isozymes) which move at different rates during electrophoresis, it is an indication that the two types of isozymes have a slightly different amino acid composition. Since amino acid composition is determined by DNA base sequence, this also implies a change in the DNA or a mutation. Thus the existence of isoenzymes of a specific protein indicates different genetic types of alleles. It has been found that such differences can be used to characterize different species within a closely related group of plants.

The patterns found in Birdfoot Trefoil should match those of the ancestral species and thus indicate the parentage of this economic species. This knowledge will be useful in breeding programs to improve Birdfoot Trefoil.

In Vitro Selection to Develop Herbicide Resistance in Birdfoot Trefoil — A Biotechnological Approach

Biotechnological approaches to weed control are being sought as new herbicides are becoming more difficult to release with the rising costs of production and the greater control over registration standards. The development of herbicide tolerant plants could extend the range of existing herbicides. It is estimated that the cost of developing a new resistant cultivar is one to five per cent of the cost of releasing a new herbicide. Recent studies have shown that by cell culture techniques, herbicide-resistant or tolerant cultivars may be developed. Cells are grown in culture media and subjected to different concentrations of herbicides. Plants which develop from cells that survive the cell culture treatments are tested for their resistance under field conditions. The goal of this research is to develop cultivars of Birdfoot Trefoil which are resistant to herbicides used for weed control. The development of herbicide-



John Raelson, PhD student, examines starch gels undergoing electrophoresis in a temperature controlled environmental chamber for isozyme differences between cultivars of Birdfoot Trefoil (*Lotus corniculatus*).

resistant cultivars would have a major impact on promotion of Birdfoot Trefoil and would be a considerable economic saving to the individual farmer and make a significant contribution to agriculture.

Graduate Student, Nancy MacLean, has just completed a study for her Master's degree using cell cultures of Birdfoot Trefoil, cultivar "Leo," treated with the herbicides 2,4-D, or chlorsulfuron, in order to select for herbicide resistance or tolerance. She found that the regenerated plants had increased tolerance to the herbicides, but lower fertility than "Leo" control plants. Selection for plants with high yield and increased tolerance will have to be looked for in the next generation.

Induction of Haploid Birdfoot Trefoil Plants by Means of Anther and Ovule Culture

Attempts are being made to recover plants from Birdfoot Trefoil with half the normal number of chromosomes. When the chromosome numbers are doubled in such plants, they would be genetically homozygous; that is, they would carry the same allele on both chromosomes and would breed true. Such a method gives the possibility of obtaining a true-breeding desirable plant.

Creating New *Impatiens* Varieties by Biotechnology

Between 500 and 1,000 species of *Impatiens* exist in the world, primarily in the old world tropics and subtropics. Of this large number of species, only about 30 are in garden and conservatory cultivation. The most popular of which is *Impatiens walleriana*, introduced from tropical East Africa at the end of the eighteenth century. Since then the "Patience Plant" or "Busy Lizzie" has become a staple bedding and window-box plant. The success of *I. walleriana* in cultivation has been due to its shade tolerance, floriferous nature, self-cleaning habit, and vigorous growth. As one of the more pollution-tolerant bedding plants, it has become very popular with city gardeners.

Impatiens are available in a wide range of colours from brilliant reds to subtle pastels, with the exception of yellow or true blue. Every year new varieties are released that are coming closer to a real blue, but there has been little success with the production of a yellow-flowering specimen. Among the many wild species there exist several with yellow flowers, including our native "touch-me-not" or "Jewel Weed" (*I. pallida*). Crosses between these species and *I. walleriana* fail to set viable seed under nor-

mal circumstances, so that the trait is almost impossible to transfer. In order to continue with such a breeding program, one must turn to the newer tools available — those of biotechnology.

Sexually incompatible plant species can be hybridized by using protoplast fusion. Protoplasts are naked plant cells that have had their cell walls removed by fungal enzymes. Two populations of protoplasts are mixed along with polyethylene glycol and fusion occurs as the chemical is rinsed away. If the culture conditions are propitious, the fusion products will make cell walls and start to divide normally. Eventually, a cell colony will become visible to the naked eye and can be induced to produce both shoots and roots. In order to rescue the hybrids it is necessary to have tissue culture systems appropriate for the growth of both cells and plantlets. Graduate Student, Susan Delafield, is perfecting protoplast isolation procedures for *Impatiens walleriana* and learning how to grow both cells and shoots *in vitro* — which is on the way to the programmed production of "New Impatiens."

The Cytogenetic Effects of Environmental Chemicals

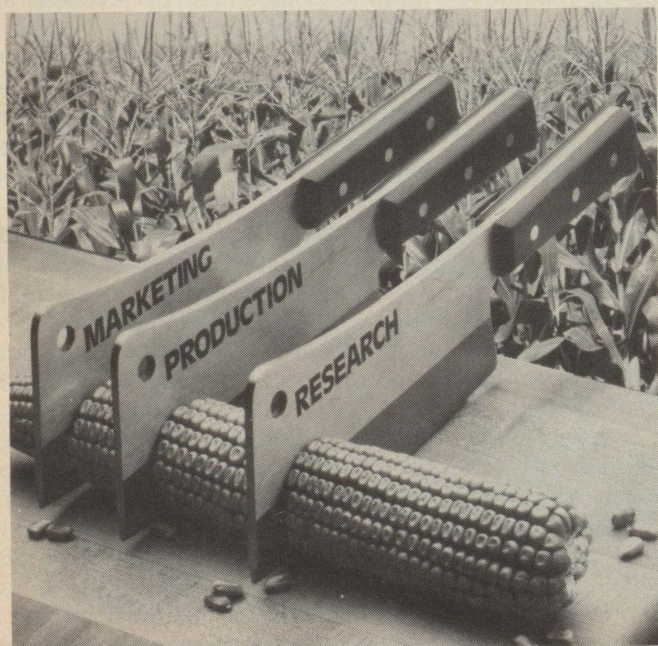
Environmental chemicals, such as pesticides, are classified on their ability to induce gene mutations and chromosome aberrations and, from this information, evaluated for their possible hazard to human health and the environment. In this type of research, organisms from bacteria to multicelled higher plants, such as *Vicia faba* (fava bean), *Tradescantia*, and *Allium cepa* (onion) are used. Studies on the cytogenetic effects of environmental chemicals have been in progress for a number of years in this Laboratory using higher plant genetic test assays. Dr. Grant was the only Canadian on the Committee to "Evaluate Data from Higher Plant Assays" for the U.S. Environmental Protection Agency's Gene-Tox Program. Recent studies have shown that, for a specific chemical agent, comparable results in terms of genetic abnormalities are obtained in plant and animal systems. We have recommended that plant systems be accepted as a first-tier assay system for the detection of genetic damage.

Plant assays are easy to handle and relatively low in cost compared to animal systems.

Graduate Students, Jean Gerster and Priscilla Castillo, are using *Hordeum vulgare* (barley) and *Vicia faba*, respectively, as plant bioassays for the detection of chromosome aberrations and the induction of mutations. Because it has been recognized that the action of plant and animal enzymes may alter the mutagenic activity of some chemicals, plant and animal enzymes will also be incorporated into the assays to see if there is any change in the effect of the test chemicals. Since Vitamin A is an inhibitor of chromosomal aberrations, the idea that the frequency of chromosomal aberrations can predict the precarcinogenic potency of a chemical will also be investigated. Dr. Grant has recently been informed that the World Health Organization has approved a program in which he will be one of the coordinators in a higher plant test system feasibility study with developing countries.

It may readily be acknowledged that genetic manipulation takes many forms.

FUNK'S RESEARCH... OUR INVESTMENT FOR YOU



Corn growers are seeing a new level of performance from Funk's G-Hybrids

It's the result of an extensive breeding program made possible by Funk's connection with the worldwide resources of Ciba-Geigy. The selection of inbreds from this vast genetic pool allows our Canadian corn breeders to test a tremendous volume of potential hybrids under many different stress conditions. Only the very best are then selected for use in your fields.

Thousands of hybrids enter Funk's breeding program every year, yet only one or two ever make it to market. An exhaustive selection process, with tests at every stage of breeding, ensures only the highest performing hybrids come out of Funk's breeding program. That's why it takes years to produce a single Funk hybrid, and why we're introducing new experimental hybrids every year.

All of our research dollars go into Funk's hybrids for one reason — so you get the most dollars out in harvestable yield.

FUNK SEEDS

division of CIBA-GEIGY SEEDS
CIBA-GEIGY CANADA LTD.

SAMPLING AND ANALYSIS OF ACID FOG

by Professor Peter H. Schuepp
Department of Food Science &
Agricultural Chemistry

Given the increasing evidence that forests in eastern Canada and the northeastern United States are experiencing an alarming and rapidly accelerating decline, particularly at higher elevations, research efforts are being hastened on both sides of the border. Particular emphasis is being placed on fog or clouds as a vehicle for acid deposition since they occur quite frequently at these elevations. The "acid loading" from fog droplets had largely been overlooked until it was found — not surprisingly really — that the small fog droplets may be much more acidic than the larger raindrops since both are formed about the same sort of chemical nucleus but with different amounts of water for "dilution."

The appropriate project in the U.S. is called the "Mountain Cloud Chemistry" Project. It is slated to come into larger-scale operation all along the Appalachian-Adirondak mountain chain in 1986, based on earlier operations of cloud chemistry sampling at locations such as Whiteface Mountain in upper New York State. The Canadian effort, under the appealing acronym of "CHEF" (Canadian High Elevation Fog), has been initiated by the Atmospheric Environment Service (AES) of Environment Canada. It is being carried out largely by McGill staff, under contractual and grant funding from AES and in close collaboration with AES scientists.

Macdonald College has had an early hand in this project as the main carrier of the CHEF-related field projects with contracts and grants administered by the Agricultural Chemistry and Physics Group (staff members Peter Schuepp and Guy Paquette). Staff members from the Department of Renewable Resources (Archibald Jones) and Meteorology (Henry Leighton), as well as a Senior Advisor from Domtar Inc. (George Tomlinson), complemented the early research team and first observations at Mt. Tremblant started in 1984. At the time of printing of this article the project will have engaged full-time a



The lab station at the 850 m level at Mt. Tremblant.

post-doctoral scientist for chemical analysis (Selim Kermasha), site operators at Mt. Tremblant and Mt. Sutton and a site-operator/chemist at the Montmorency Forest research station of Laval University, in the mountains north of Quebec City. The latter site is a new addition to the two mountain sites which have been in operation between one and two years. This personnel is complemented by a graduate student and a summer student.

In November 1986 in a mad race against time (accessibility of terrain, snow-making operations) and bureaucracy, we had small high-elevation lab-stations built at the 850 m level at Mt. Tremblant and at Sutton. Skiers among the readers of this journal may have noticed the station near the top of run 4 at Sutton while the Mt. Tremblant station is somewhat removed from the chalet at the top, sharing the terrain with the Radio Canada transmission tower. Work on a station at the Montmorency site near Quebec City will start in April 1986.

Those of us who do not live on mountain tops may well underestimate the frequency of fog (or cloud) at such

sites. Observations at Sutton showed that even during the spring and summer months the top of the mountain was in fog between 30 and 40 per cent of the time for both morning and afternoons. And the interception of "acidity" by the forested mountains may be considerable; pH levels during three consecutive days (February 17-19, 1986) at Mt. Tremblant were below 3. This means that acidity — expressed in terms of hydrogen-ion concentration — is about 1,000 times higher than normal, slightly acidic, lake water.

Samples of fog, often mixed with snow, are collected by specially-designed fog samplers and sent to Macdonald College for analysis. The analysis covers the positive and negative electrically-charged particles (ions) of chloride, sulphate, nitrate, sodium, ammonium, potassium, magnesium, and calcium which have to be detected at levels below 1 ppm (part-per-million). A new (\$40,000) high-pressure liquid chromatography system (HPLC ion chromatography) has been installed for this purpose and a backlog of hundreds of samples is currently being analyzed.

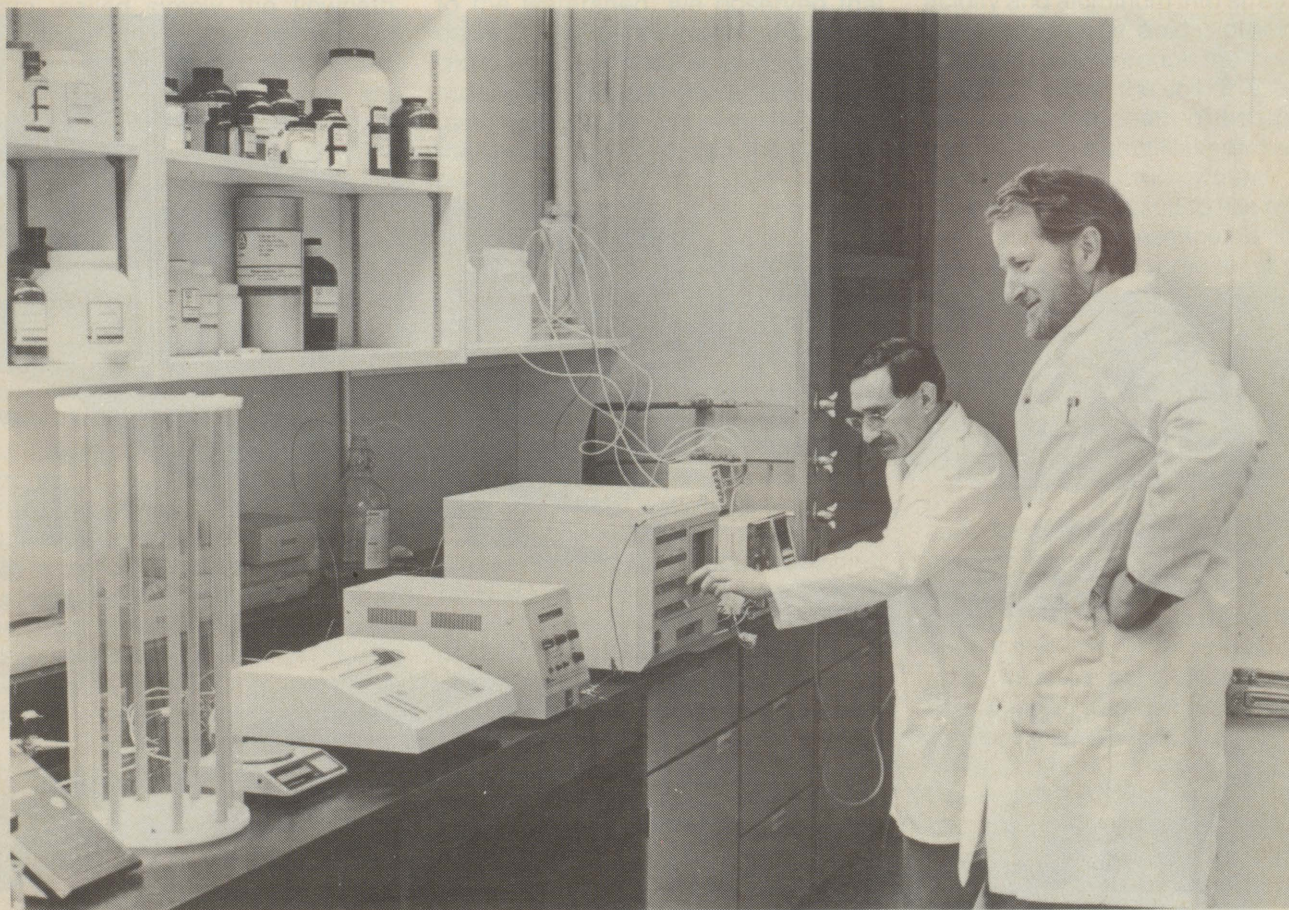
The type of result expected from the completed tests may well be indicated by early analysis of a fog event on November 26-27, 1986, an unusually thick fog in the Montreal area which some readers may recall. Samples taken by a prototype fog sampler at Macdonald College at that time showed the following readings for sulphate (a measure of sulfuric acid in the precipitation): 22 ppm in the fog, 58 ppm in fog water collected on branches of lilac bushes, and 6 ppm in the rain that followed the fog. The high reading on the fog water intercepted by the lilac bushes points to the build-up of contamination (ions) on foliage even in the absence of precipitation, the so-called dry-deposition. The latter, in itself, is a rather interesting field of study and a graduate student (David McGerrigle) is currently finishing his Master's thesis on the topic. Preliminary analysis of some of

his samples from Mt. Tremblant in the fall of 1985 showed a steady accumulation of sulphate in rinse-water of foliage, from negligible to 10 ppm over six days on previously-cleaned foliage. Knowing the exact amount of water used in the rinsing process, the magnitude of dry deposition can then be estimated.

Specific studies of this kind, and the rapidly-growing database accumulated by the site-observers, will permit the first estimates of the real impact of acid deposition in the form of fog on our environment and forest resources. Observed deposition "events" will also be analyzed in terms of the general meteorological situation: Analysis of atmospheric circulation prior and during such events may help to pinpoint possible source regions.

The already established observational network with its personnel and facilities will undoubtedly lead to fur-

ther expansion of environmental studies both within McGill and through collaboration with outside groups. Scientific enquiry has a habit of leading to further unsolved questions and our environment and its response to the threats to it are complex. If I may be permitted a bit of speculation at the conclusion of this article, it will be (a) that the threat to our forest environment will become much more evident within the next few years and (b) that some factors which have not yet been given much publicity by the media will become more prominent. Ozone may well be one of those factors. The Atmospheric Environment Service plans to install ozone monitoring equipment at our lab stations in 1986 which symbolizes — I hope — that through this collaboration Macdonald College will have a role to play in the protection of our environment well into the future.



A new high-pressure liquid chromatography system will aid tremendously in the research efforts of, l to r, Drs. Selim Kermasha and Peter Schuepp. Photo by Ralph Emery.

What Is the Effect of Acid Precipitation on Soils?

by Professor Willy H. Hendershot
Soil and Land Resources
Department of Renewable
Resources

The goal of our research is to find out how the soils in a watershed control the chemistry of the water passing through it and also how the movement of "acidic" precipitation is affecting the chemistry of the soils. Obviously there are major changes to the chemistry of the water that arrives as rain, passes through the forest canopy, and then through the soil and into the streams. From the point of view of acid rain effects there are a number of fundamental questions: Are the soils able to absorb the acidity coming from the rain? What changes result in the soils?" How is the composition of the outflowing water affected by changes in precipitation chemistry?

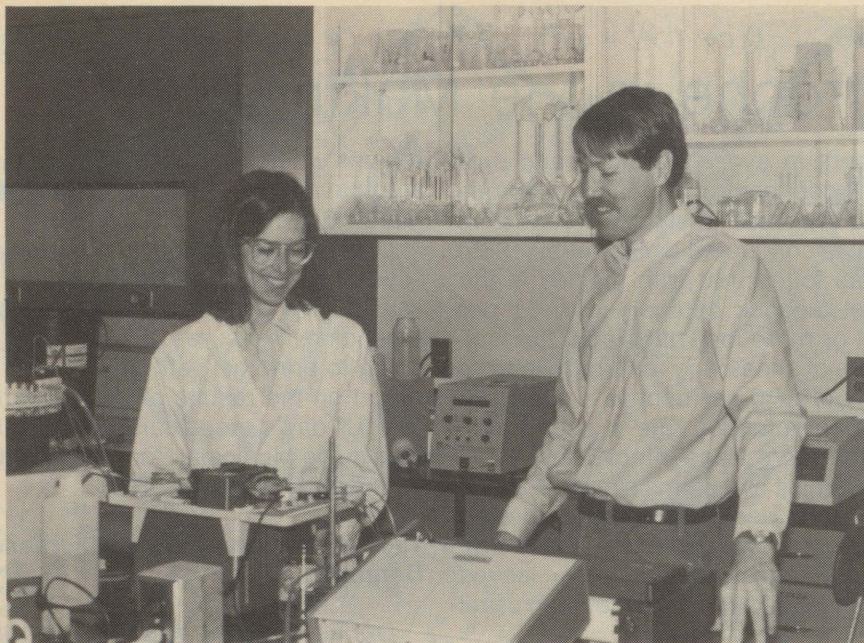
Before we could begin to answer these questions we had to find out how



Once equipped with a float chamber made of plastic drain pipe, a natural v-notch wier is ready for gauging stream flow.



Rapid changes in water chemistry have been observed by Dr. Hendershot's students in Lac Pin Blanc. This study site is on the biology research station of the Université de Montréal.



Hélène Lalande and Willy Hendershot in the laboratory used for soil solution chemistry analysis.

the soil/watershed system was operating. Our early work showed that the pathway by which the water flowed from the soil surface down into the stream, called simply the flowpath, was both critical to the chemistry of the water reaching the stream and very variable over both time and space. The flowpath controls the chemistry of the water reaching the stream by controlling which horizons the water contacts. In the acidic forest soils (Podzols) of the southern Laurentians the surface horizons are very acidic with pH in the range of 3 to 4 while the lower soil horizons have a pH of just under 6. Thus water flowing at the surface of the soil will cause much more acidification to the stream than water flowing through the deeper soil horizons.

This knowledge helped to explain the timing of rainfall-runoff events that result in the death of fish in lakes fed by small streams. These fishkills normally occur during high flow during the spring snowmelt period or during heavy rainfall in either the summer or the fall. The rapid input of water to the soil surface causes the soil near the stream to become saturated. The water table rises and the water flows horizontally through or over the acidic surface soil horizons. This type of event leads to high concentrations of H^+ (acidity), and dissolved aluminum (Al) reaching the stream.

Numerous studies have shown

that fish are killed by very acidic waters (low pH or high H^+ concentration) or by waters containing high concentrations of inorganic Al. Going back to the watershed, we observed that during those periods when there was water flowing into the streams from the soil surface the concentrations of inorganic aluminum were much higher than when water flowed through the deeper soil horizons.

What about the questions posed earlier? First, are the soils able to absorb the acidity coming from rain? When the water has time to penetrate vertically through the soil virtually all of the H^+ is absorbed on the soil particles although this does have its consequences. When the water flows rapidly into the streams via the soil surface the stream receives a shock of acid and Al that can be toxic to fish.

What changes result in the soils? The acid precipitation consists mainly of HNO_3 and H_2SO_4 , in water these acids dissociate into H^+ and NO_3^- or SO_4^{2-} . As mentioned, the added acidity (H^+) is absorbed onto soil particles but at the same time it displaces other cations such as Ca, Mg, or K, important plant nutrients, and they are leached out of the soil into groundwater, streams, and lakes. The only way for nature to replace these nutrients in forest soils is by weathering or decomposing the minerals in the soil itself. This process goes on continuously in soils and under normal

conditions the amount of cations (Ca, Mg, K, etc.) released by weathering is the same as the amount leached from the soil. As acid precipitation becomes more severe more of the cations are lost than are replaced by weathering and the soil moves to a new, more acidic, equilibrium where there is more H^+ and less Ca, Mg, and K in the root zone of the forest. The NO_3^- and SO_4^{2-} added to the soils by the acid precipitation may be absorbed by the soil, taken up by plants, or leached from the soils into the streams. During the growing season most of the nitrate (NO_3^-) is taken up by plants since it is one of the nutrients in shortest supply in the forest. During the late fall, winter, and early spring much of the NO_3^- will be leached out of the soil. Sulfate (SO_4^{2-}) is used in such small quantities by the plants that most of it is leached through the soil although a small fraction may be adsorbed on the soil particles.

How is the composition of the out-flowing water affected by changes in precipitation chemistry? First, there are the severe, short-term flushes of acidity and aluminum into streams and lakes caused by acidic precipitation flowing rapidly through the acidic surface horizons of the soil. These events can cause the death of fish found in the streams or small lakes where they cannot avoid toxic water. Severe effects can also result to fish eggs that have no means of escape. Second, the acid precipitation increases the leaching of cations (Ca, Mg, K) and anions (SO_4^{2-} and NO_3^-) out of the plant root zone and into the streams.

What future research is needed? Researchers have now developed a framework of ideas that seem to explain the observed behaviour of acid precipitation in soils. It is now necessary to quantify the changes taking place in the soils and streams. In part our role is to show clearly the effects of acid precipitation so that the real cost of this form of air pollution can be estimated. We must also be in a position to judge what impact a change in the acid precipitation situation, for better or worse, will have on soil properties and the quality of water flowing in the stream. Let's hope that our next research objective is to follow the improvements caused by the reduction in acid emissions by both Canadian and American industries and public utilities.

MAPLE DECLINE

A Catastrophe in the Making

by Professor A.R.C. Jones
Woodland Resources
Department of Renewable
Resources

In 1978 concerned maple syrup producers in southern Quebec reported that maple trees of all sizes were drying out and dying in groups of eight to 10 trees for no apparent reason. By the summer of 1981 the situation had worsened, and in 1982 large areas of dying maple were identified, particularly in the southern counties of Beauce, Megantic, Frontenac, and Arthabaska — the heartland of Quebec's maple syrup industry.

In the fall of 1982 a working group of scientists from Laval University and provincial and federal research agencies was formed to survey the area affected, to try to determine the causes of the dieback, and to find ways to stop or minimize its effects (Bordeleau, 1986). A mail survey of 7,000 maple producers was conducted in 1982, following which an aerial survey of 19,400 square kilometres to determine the extent of maple stand dieback was made in the territory most seriously hit. Twenty-nine per cent of stands surveyed had 11 per cent or more foliage loss.

The research program proposed three main hypotheses for the death of the trees (Bordeleau, 1986); (1) predisposing causes having long-term effects that dealt mostly with poor management such as the age or over-maturity of the trees, the harvest of companion species to leave only maple, heavy or no thinning, overtopping, livestock grazing, and the effects of air and soil pollution to name the most likely; (2) inciting causes that have short-term effects on the trees, such as weather (late spring frosts, mid-winter thaw, drought) and insect infestations, all of which can seriously stress the trees, and (3), contributing causes such as disease that can finish off a tree once it has been weakened by one, or a combination, of the other causes (Manion, 1981). The shoestring root-rot (*Armillaria mellea*) or honey fungus is a major contributing pathogen responsible for killing many severely stressed trees. It is

present in every woodland and only kept under control by healthy, vigorous trees that can resist its inroads. In studies conducted by Roy et al (1985) it was found that with maples in the worst dieback category with 51 per cent or more loss of foliage, the incidence of shoestring root-rot rose from a low of 5-10 per cent to a nearly 90 per cent infection rate in such trees. Furthermore trees infected by *Armillaria* exhibit symptoms similar to those of maple decline that first alerted producers to the problem. These are:

- Unfurling of smaller, paler leaves that tend to colour earlier than usual in the fall.

- Slowing of taphole healing, reduced rate of diameter increment, terminal branches almost stop growing.

- Premature leaf drop starting at the top of the crown.

- Bark loosening and falling from the main branches and the trunk.

The Morgan Arboretum at MacDonald College is not considered to have a critical maple decline problem yet, but the above symptoms have been observed in about 10 trees which are now all dead. All these trees have been killed by *Armillaria*. Only two of the dead trees were small; all the rest were large, overmature trees that should have been cut in any program of sugarbush management. Because of their age and condition these trees were prime candidates for *Armillaria* infection.

Maple Losses Estimated in the Millions

The serious consequences of maple decline have been quantified by the studies and research service (SER) of the Union des Producteurs Agricoles (UPA) who estimate two million tapholes lost (15 per cent of Quebec tapholes) since the dieback was first reported. Furthermore the UPA places the financial loss to producers to be in the order of \$87.6 million. This sum does not include the lowered production now reported from still living trees, the cost of salvaging the dead trees from devastated sugarbushes, and the loss of a major source of income to many landowners in the hardest hit

regions where alternative enterprises are unavailable. (*Terre de Chez Nous*, March 6, 1986).

Dr. Bernard Bernier, Laval University soil scientist, has been working to save declining maples with various soil amending measures. At the time of going to print, he, with others, was to report on the results of this research at a full day's press conference to be held in the Municipal Congress Centre in Quebec on May 8, 1986.

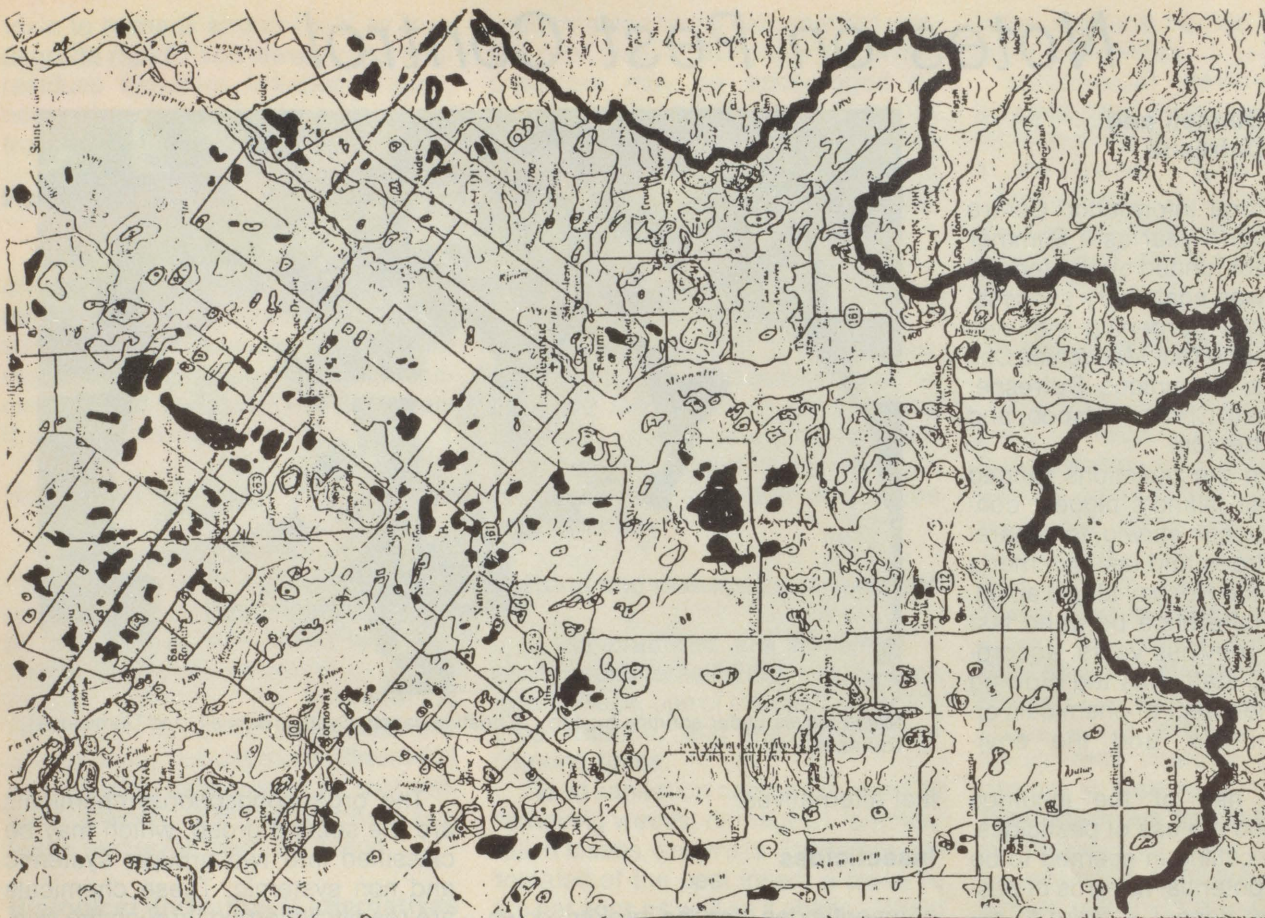
1985 Aerial Survey Shows Increased Damage

During the late summer of 1985 25,000 square kilometres were surveyed and maple stands having 11 per cent or greater foliage loss were estimated to cover 40 per cent of the area surveyed. In 1983 the figure was 29 per cent (Carrier and Gagnon, 1985). This amount of damage was greater than the previous surveys and dead trees were recorded in 60 per cent of the stands affected by dieback. Few maple forests were free of some damage (Bordeleau, 1986). The 1983 and 1985 damage maps for the Lac Megantic area show the drastic decline occurring in tree conditions in the maple stands of the region over the past two years (see map). It should also be noted that the areas most strongly affected by dieback receive more acid rain than any other part of the province. Other deciduous trees are also being attacked by dieback and for the first time conifers have begun to show decline symptoms similar to those described in Europe (Bordeleau, 1986).

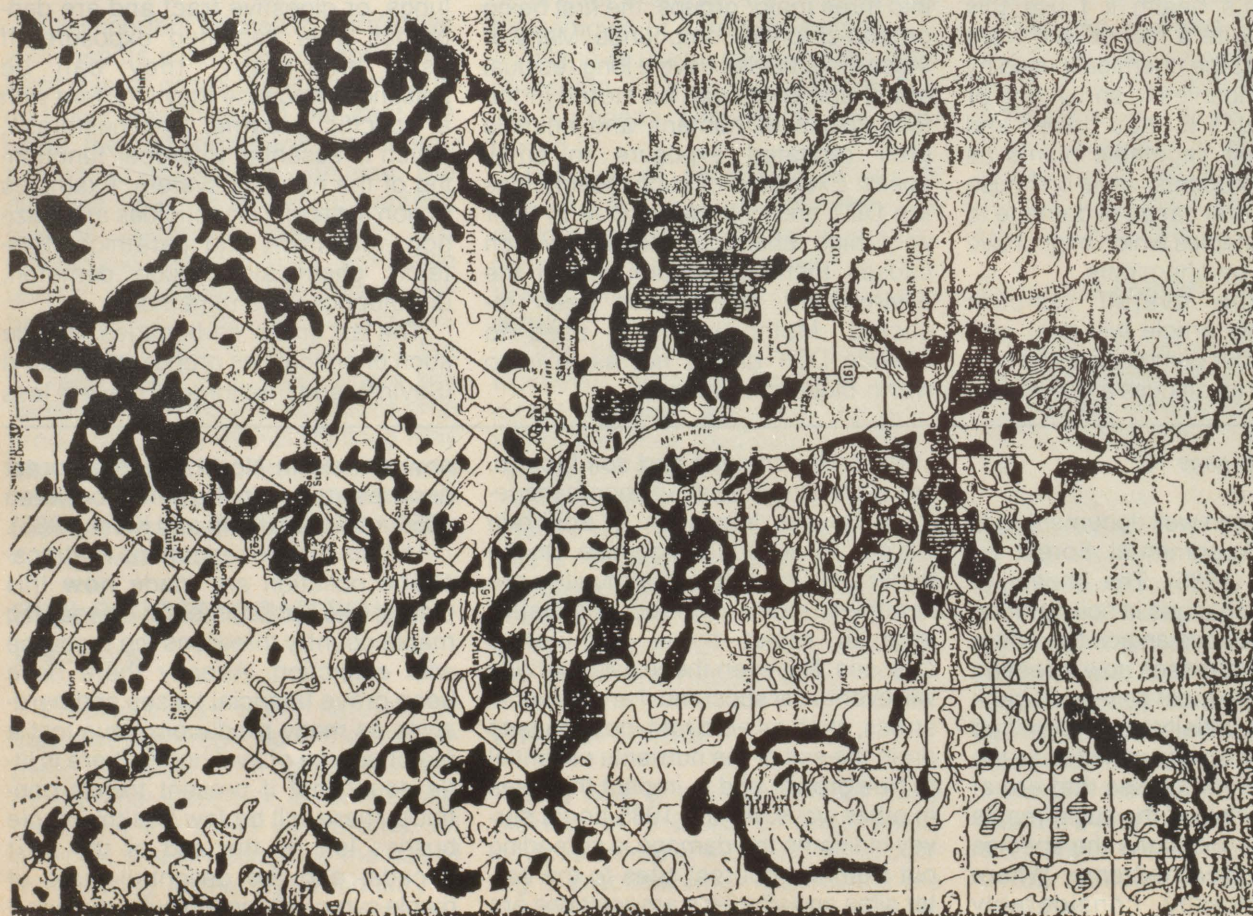
Some Tentative Conclusions

As maple dieback spreads like a plague across the province moving outwards from the most seriously affected counties to other regions, air pollution and acid rain are strongly implicated. The fact that the hardest hit region receives the heaviest sulphate pollution load can hardly be a coincidence. The devastating long-term effects of acid rain on soil nutrients

(Continued on page 12)



1983 AERIAL SURVEY



1985 AERIAL SURVEY

The two maps of the same area around Lac Mégantic flown two years apart show (dark areas) changes in maple stands defoliated by 11 per cent or more. Hatched areas indicate tree mortality observed in 1985. (Source: MER 1985).

Notes on Pest Control

by Cynthia Bonnell and
Dominique Dufresne

The Horticultural Information Centre (HIC) in its fourth year as a Summer Canada Project funded by the federal government was again very successful. Over 2,000 gardening inquiries were answered by four Macdonald College students, Dominique Dufresne, Cynthia Bonnell, Christine Jacob, and Katherine Patterson.

Once again the questions ranged from the West Island's biggest concern, the European earwig, to general care of fruit trees and last summer's infestation of the Norway Maple aphid. The biggest difference between last summer and previous years, according to the HIC staff, was the growing concern of the effect of chemicals on humans, animals, and the environment.

Over one half of the inquiries centred around the use of pesticides. Many people calling in seemed to be aware of the potential hazards of pesticides: "What danger is there to my child's or pet's health if I use this chemical?" Quite a few people were concerned that the chemicals used by lawn care companies to spray their or their neighbour's lot had drifted and settled on their vegetable plants as well. The HIC students, while on house calls, saw several cases of damage to trees and vegetables which might have been caused by chemicals.

Due to the overall concern expressed, this article will deal with some of the most commonly used pesticides as well as discuss a few biolog-



Maple leaves under scrutiny by, l to r, Christine Jacob, Cynthia Bonnell, and Dominique Dufresne.

ical alternatives.

Insecticides

Insecticides can be broken down into three major groups, the first being organo-chlorine compounds. Many of these insecticides have a long residual effect and some can be stored in the fatty tissue of humans and animals after repeated exposure to small doses. Examples of such insecticides are DDT and chlordane. Due to their very high chemical stability, which causes them to accumulate in the environment, these have been restricted. Methoxychlor is used to replace DDT and is not as toxic to warm blooded mammals.

The organophosphorus chemicals are the second group, which may be classified into two groups: systemic and non systemic. These chemicals are readily absorbed through the skin, lungs, or digestive tract and are dangerous after repeated exposure. If used incorrectly, they can be poisonous because they interfere with a specific enzyme, cholinesterase, which is essential to proper functioning of the nervous system. Examples of non systemic insecticides are diazinon, malathion and parathion. Systemic chemicals include demeton, dicrotophos, and dimethoate.

The last group, carbamates, include such chemicals as propoxur, carbaryl (Sevin®), and methomyl. They are less

(Continued from page 10)

and pH have been well documented at Duchesnay Experimental Forest by Gagnon et al (1985). The impact of recent severe changes in soil nutrition and lowered pH have an additive effect to all the usual stresses now affecting maple trees. The most severe dieback in Quebec has initially been identified on the poorest or wettest sites in the maple forest communities that are at the edge (the brink) of the sugar maple range. In these locations the species is at its ecological extreme. Where trees are already considerably

stressed by climatic and soil factors, any other stress such as poor management, severe defoliation, or acid rain will quickly speed their demise. On the richer sites the maple communities are healthier, more vigorous and better able to resist these cumulative stresses. But even these associations will eventually succumb if an individual stress, such as acid rain, continues to drain the soil of the nutrients essential to tree growth and to impact the trees in other ways. As the 1985 aerial survey indicates the damage is spreading out from the poorest sites to the better sites and all maple associations are

now at risk. In North America forest declines started in the period between 1950 and 1960 (Klein and Klein, 1985).

Unless drastic reductions in atmospheric pollution are made **now** this plague-like phenomenon sweeping maple country threatens the resource with extinction. Already there have been grave financial losses and hardships as many producers have lost a major source of livelihood. There is little doubt that if present trends continue, there will be few healthy maple bushes left by the end of the next decade, and the delightful taste of maple syrup will remain but a memory!

toxic to humans and animals as they degrade rapidly and leave no harmful residues. However, irritation to eyes, nose, throat, and lungs may occur from exposure to them.

Fungicides

Fungicides, like insecticides, are divided into systemic and non systemic groups. Contact fungicides, such as zineb, maneb, and ferbam and systemic fungicides, including benomyl, are of low toxicity to mammals if used correctly.

Herbicides

Herbicides are chemicals used to inhibit or prevent the growth of weeds or kill them. A contact herbicide may be selective or non selective which means it may kill all plants or only a certain species. An example is Weedrite®. Systemic herbicides are slower acting but are more effective in killing weeds with extensive root systems. Killex® is a broad-spectrum systemic herbicide used on lawns.

Biological and cultural alternatives

It is important for man to learn to live with insects since they comprise the most diverse group of animals on earth and only less than one per cent are pests, the rest being beneficial or neutral in their relationship with man. The different types of biological controls include predators, parasites, and pathogenic agents. They are often used in conjunction with certain cultural practices. The aim of insect control is not to try to eliminate them, but to keep them at a level where the damage occurring will not reduce crop production. This way of thinking may also be applied to plant diseases and weeds. After all, a weed is only a weed because it is growing in a place where it is not wanted.

BIOLOGICAL CONTROL

Predators

Predators may occur naturally or they may be introduced to the environment by man. The predators are mostly other insects or, in some cases, birds and the small vertebrates. An example of such control is the use of the ladybug in the citrus industry to control scales. Praying mantis are

used by some home gardeners to control pest insects. Naturally occurring predators may be encouraged by providing an appropriate habitat for them. For example, allowing plants with small blossoms, such as dill and parsley, to flower in your garden will provide food for some predators.

Pathogenic agents

A disease organism, such as a bacterium or fungus, can also be used. An example is *Bacillus thuringiensis* for the control of several caterpillar species. This type of control is slower than chemicals but much safer and can be very effective.

Cultural and management practices

These practices are efficient and easily implemented. They include sanitation, tillage, use of resistant varieties, crop rotation, and manipulation of planting times.

Good sanitation can be achieved by removing weeds, damaged branches, fallen leaves, and fruits. These provide females of the pest insect a place to lay her eggs as well as a shelter. Wood borers, for example, are controlled by the removal of damaged branches.

Tillage is useful because the eggs of insects such as the cutworm and the European corn borer are destroyed.

The use of resistant cultivars is often the first option to consider. This discourages the build up of populations. You may ask a grower or refer to a catalogue to find a cultivar that is suitable.

Crop rotation should be practiced whenever possible. Because many insect species are host specific, removal of their food source helps to reduce the population.

Changing the time of planting is also another way to control pests. Often all that is needed is to know when a plant is susceptible to an insect and the insect's life cycle. In this way you can avoid crop damage. This is used with the wheat and hessian flies.

Physical control

This type of control involves hand picking of insects or mechanical devices to trap or kill them. Hand picking is practical when the insects are not too numerous and when they are

large, e.g., the tomato hornworm, or other caterpillars.

Mechanical devices such as screens used to prevent mosquitoes from entering the house can be used in the garden. Other barriers like "Tanglefoot®", a sticky paste, are used at the base of trees to prevent insects such as ants and moth larvae from crawling up.

"Alternative" insecticides

The following comprise some of the more common garden pesticides.

Soapy water: 1/4 cup mild dish detergent: 1 gallon water. Mix and spray plant well. Rinse one day later with clear water. Effective against white flies, earwigs, and aphids.

Water and cayenne pepper: spray against flea beetles and caterpillars.

Chili pepper solution: 1 cup chili pepper and 1 cup water. Let sit overnight. Dilute 1 cup extract: 1 cup water. Spray only mature plants. Good against all insects.

Diatomaceous Earth: Made from fossil deposits of diatoms, algae that secrete silica, it will dehydrate insects. Broken egg shells mixed in garden soil is also sometimes effective.

Water and vinegar: Spray a mixture of 1 tablespoon vinegar to 2 quarts of water to remove mould on plant soil.

Rotenone: A powder derived from plants, available at garden centres. Follow instructions on label, and avoid using if you have a pond as it is quite poisonous to fish.

Chemical control

Chemical controls should be used as a last resort when other methods have failed. Before using any chemical, always read the instructions carefully.

To conclude, the best way to control insects is to visit your garden often. In this way you can see the insect population changing and thus can intervene if necessary at the right time. By going often you get to enjoy your garden more, and you will also get to know the insects that are pests and those that are beneficial. It should be remembered that we are not trying to eliminate insects from the earth but are just trying to keep them under control, which means below the level at which damage to plants cannot be tolerated.

DIATOMACEOUS EARTH:

A Non Toxic Pesticide

by Professor Stuart B. Hill
Department of Entomology and
Ecological Agriculture Projects

For centuries stored grain has been protected from insect attack in much of the less developed world by adding some form of powder or dust to it. Common materials include plant ash, lime, dolomite, certain types of soil, and diatomaceous earth (DE) or Kieselguhr.

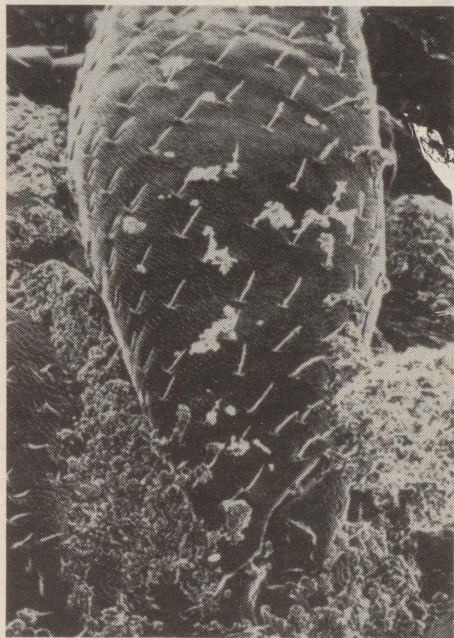
With the introduction of synthetic pesticides in the 1940s, and modern fumigants some time later, it was felt that a scientific solution to pest problems had been found. Although these materials provided enormous local benefits, a number of problems are beginning to be recognized. These include the development of resistance by insects, pollution of the environment, contamination of foodstuffs with residues, and exposure of users to toxic chemicals. This has led a small group of researchers and developers to look again at the different powders to see which are most effective and how they can be improved.

Probably the most effective naturally occurring protective powder is diatomaceous earth. This is a geological deposit made up of the fossilized skeletons and tests of siliceous marine and fresh water organisms, particularly diatoms and other algae. These skeletons are made of hydrated amorphous silica or opal. When crushed, they break up into tiny pieces of "glass" (so tiny that the material feels like talcum powder). This is easily picked up by the hairy bodies of most insects, whereupon it scratches through their protective wax layers; and they also absorb some of this material, the result being that the insects lose water rapidly, dry up and die. Further protection is provided by the powder's property of repelling many insects. A similar principle probably accounts for the fact that birds frequently take dust baths, presumably to rid themselves of parasites.

Although patents for diatomaceous earth formulations were issued in the United States in the late 1800s, it was



Stilts might help an insect to avoid DE but this one still looks worried!



DE adhering to parts of an insect's body.

not until the 1950s that the first commercial formulations of it became widely available, and between 1963 and 1970 a series of studies on DE were conducted by the U.S. Department of Agriculture.

In several tests, DE gave better protection of grain than malathion, partic-

ularly over the long term, without exposing anyone to the dangers of toxic chemicals. At that time relatively large amounts of DE were added to grain to provide protection, e.g., 3-1/2 kg/tonne. The main problem with using this amount was that it tended to make the grain very dusty and it reduced its flow rate and test weight.

Today this problem has been greatly reduced through the use of improved DE formulations that contain baits and attractants. Such formulations have been developed and tested in Quebec through the collaborative work of Mr. Arthur Carle (P.I.P. Products Inc., 2721 Plamondon, Longueuil, Que., J4L 1S1) and myself. Using NC®, one of these formulations, as little as 0.5 kg/tonne may provide full protection. Despite this, very little grain in Canada is treated with these DE formulations. One of the main reasons for this is that present regulations prevent the adding of any powder to grain destined for export. Until such rules are changed the full potential of DE will not be realized. This is especially frustrating in the case of grain going to developing countries as aid. While this grain may be pest-free when it leaves Canada, it is often rapidly invaded by insects when it reaches its Third World destination. It is not uncommon for 20 per cent of this grain to be subsequently lost to pests. If DE had been added prior to export, however, it would have been protected indefinitely. Fortunately, DE can be added to domestic grain as long as it doesn't pass through licensed elevators. It can also be used in grain and food handling and storage areas such as flour mills, empty grain bins, box cars, ships' holds, warehouses, food processing plants, etc.

In houses it can be used effectively to prevent the entry of certain insects such as earwigs, ants, and cockroaches, and to control these and others that are present in cupboards containing food, carpets, basements, attics, window ledges, pet areas (for fleas), etc. In all of these examples it is important to place a small amount of the powder in corners, cracks,

(Continued on page 42)

Mac's Rugby Grads on Tour

by Bill Tierney¹
Player and Coach

If you're wondering where old Macdonald College rugby players go when they graduate, you could have asked some of them this past January on the Ste. Anne de Bellevue Rugby Club tour of England, Wales, and Ireland.

In fact, you might have rubbed your eyes, sore from the English damp, or the late nights, or the mud. You might have wondered if you weren't back in a minibus with the Mac rugby team of the mid-seventies heading for the sun and Mardi Gras. Isn't that Rick Baxter ('74), the Lavalin biologist, bushy red hair and beard intact, auctioning off a bag of odds and ends retrieved in a Welsh changing room? And isn't that Bill O'Neil ('78, '84), researcher at Royal Victoria Hospital, croaking instructions just before the bus arrives in London on the last leg of the tour?

In fact, the tour was rather like a sequel to the old Macdonald tours of the 1970s. Of course, there were a few changes. In some cases, it's a few grey hairs; in others, a few hairs less. And at the back of the bus, there's a gang of young men, John Abbott players, unwrinkled, uninjured, unconscious of the Mac legends. They will now be treated to the Baker saga, how one professor stocked the team for 15 years (Sam, Quill, '82; Buddy, '81 '83. Jeffrey, '83) and get to play with Bobby Clark (PhD '85), now a Saskatoon resident and professor who has flown in for this revival tour.

Rugby at Macdonald College has no official historian. There are bits and pieces of the story littered through the lives of many graduates. You can probably fill in some bits yourself.

The old Mac team existed to play one ferocious annual game against McGill University, preferably on Forbes Field behind Molson stadium. Other fixtures were erratic and ad hoc. And there was always a good time. No matter what the results on the field, Mac always won the parties.

There had always been rugby at Mac, the rumour ran. Apparently, the Second War put it to sleep.

What happened to rugby? After

¹Bill Tierney is a teacher in the English Department at the John Abbott CEGEP



Driving for the line vs Montreal Wanderers, May 1984.



Ste. Annes vs McGill, November 1980, standing l to r: Sandi McGeachy, '81, Bruce Hodgeman, Ray Alisauskas, '80, Malcolm Churches, '82, Graham Jamieson, Martin Silverstone, '77, Robert Baker, '82, Bob Bergeron, '81, Gary Peacock, '69. Kneeling l to r: Vince de Grandpre, Dip, Class of '73, Bobby Clark, PhD '85, Gord Arbogast, Serge Blondeau, '77, Dave Snow.

1916, British influence was shouldered out by American padding and prosperity provided the funds to start Canadian Football clubs. Mac went into the football business.

Why did rugby revive? In Montreal during the seventies, most clubs were expatriate, full of exiles loaded with Old World skills and tradition. Mac was the most notable exception.

It is easy now to see that the major Quebec players of the 80s were developed at Macdonald College. By the end of the 70s, the flow of expatriates had dried up, resident expatriates had aged out or emigrated to Ontario. Macdonald College was playing in the final of the Quebec second division cup, creeping up on the scale of excellence.

(Continued on page 31)

FUN FACT FABLE FICTION

by **Ralph H. Estey**
Emeritus Professor
Department of Plant
Science

Violets

Few families of plants are so widely admired as the violets. Four states of the United States: Illinois, New Jersey, Rhode Island, and Wisconsin have chosen the violet as their state flower, and the province of New Brunswick has the violet as its provincial flower. No other flower has been honoured by as many states or provinces.

Violets of one kind or another — there are several hundred species — are widely distributed in many parts of the world, including the arctic and antarctic. Certain varieties bear white and yellow flowers, but the blue and purple violets are world favourites.

Happily, violets may be picked freely without fear of depletion, providing the roots are not disturbed. Relatively few of the seeds needed for propagation are found in the bright flowers that people love to gather. Most species have two kinds of flowers. One is the well-known colourful kind and the other is a small, late-season, inconspicuous flower that does not open up to be pollinated by insects. They are self-pollinated and produce seeds.

Many of the popular books on wild plants for food will contain recipes that include violets because both the flowers and the leaves are edible. Candied violets sprinkled on sherbet or ice cream is said to be a delightful

combination. Deep fried violet leaves, well browned and sprinkled with brown sugar and some orange juice, go well with mixed vegetables and meat dishes.

The Greeks used violets in their treatment of headaches and sleeplessness. The Persians crushed them in wine, and the followers of Mohammed almost worshipped them. Modern natural-food faddists use violets as an ingredient in treatments against inflammation.

Napoleon became known as Corporal Violette because he used the violet as a badge of honour while he was in exile.

Francis Bacon, in his Essay number 46, written in 1625, made this observation: "That which above all others yields the sweetest smell in the air is the violet." Many modern nature lovers will agree with him.

His and Hers

At one time, in Upper Canada, it was an offence to hang both men's and women's undergarments on the same outdoor clothesline. Women's "unmentionables" were hung, discretely, on indoor racks or lines, often behind a screen or in a closet.

Male and Female

There was an old lady
of Harrow
Whose views were
exceedingly narrow
At the ends of her paths
She built two bird baths
For the different sexes
of sparrow

Acadians

Throughout the nineteenth century and the first decade or so of the twentieth an Acadian was anyone who lived in the coastal regions of northern Maine, the Maritime provinces and some of the near-by islands — the general area of Acadia. Now, the word "Acadian" is presumed to refer only to the people whose ancestors came from France, regardless of where they live in the Maritime provinces.

Temporary Tax

On July 25, 1917, Canada's Minister of Finance introduced a temporary, wartime tax on personal incomes.

Trains Ran on Wood

Prior to the second world war, there were about 3,000 wooden cross ties under almost every mile of all the railroads in Canada. The wooden ties are gradually being replaced by ones made of concrete or some other more durable material.

Holy Books

The New Testament of the Bible or Holy Book of the Christians was written and assembled many years after the death of Christ, whereas most, if not all of the Koran, the Holy Book of Islam, was written in Mohammed's lifetime by his secretaries. It was later assembled into a book of 114 chapters.

There is little evidence that either Christ or Mohammed could read or write.

Biblical Riddle

Who was born before his mother, died before his father and was buried in the body of his grandmother? One person mentioned in the Bible fits all of these criteria. (See **Newsmakers** Section page 42 for answer.)

Father's Day Question

The official flower of Father's Day is the dandelion. Does anyone know why that persistent weed was so chosen? Could it have been because it tolerates being stepped upon?

Ponder Over This

More plants, named in Europe before the Reformation, have names associated with saints than with devils and other sinners. The reverse is true for America after the Reformation when nearly twice as many plants were given names associated with devils and witches as compared to saints.

Butter Substitute

Oleomargarine, now usually referred to as margarine, was invented in 1868 by a French chemist named Hippolyte Mege-Mouris. The patent for this product was purchased by the United States Dairy Company in 1873, which manufactured and sold oleomargarine in New York City. To be true to its original name the product should include oleo oil, obtained from beef fat, but present day margarine is so different from the original that Hippolyte wouldn't recognize it.

The Early, Innovative Days of Adult Education — Part II

by R. Alex Sim

Leadership Training

The quality of community life depends, in part at least, on the quality of its leaders. The leaders, in effect, are a reflection of the community as a whole, but whoever attempts to change or improve community life will be tempted to do so by reaching and improving its leadership. This is an elusive and precarious quest, for there are several types of leaders. There are the formal leaders, appointed or elected, some of whom hold tenure and are subject, in many cases, to rules and instructions from an outside headquarters. There are the informal leaders who may hold office from time to time and who wield influence whether they hold office or not by virtue of social status or personal qualities. Selecting and training leaders in a sense runs counter to the theory of democratic society which eschews an established corps of elite leaders, when the preferred method sees leadership diffused and rotating. There are risks in offering leadership training where techniques and tricks to influence and control may be taught which are little more than innocent devices to manipulate others. Yet techniques are important even if they go no further than to make people comfortable and are stimulating to mind and spirit. Besides these important technical skills, leadership must be pointed in some direction. It should be invested with moral values, and it should be in contact with the real world of injustice and inequity.

These comments on leadership reflect experience I gained in the Adult Education Service at Macdonald College. Beginning when we organized the School for Leaders and then in the Community Schools, the assemblies were organized, as well as the individual courses, to present ideas about the world we lived in. To these assemblies were invited the best minds available to us. They included Arthur Lismer of the Group of Seven; Agnes Macphail, the first woman to sit in the House of Commons; N.A.M.

MacKenzie, then president of the University of New Brunswick, later a senator; John Basset Jr. then publisher of the Sherbrooke Record, as well as professors from McGill and Bishops.

The listening groups greatly simplified the problems of discussion leadership. The groups that listened to the broadcast were small, the agenda was provided, and the ideas for discussion were presented in written material. But a small group of neighbours with the homogeneity implicit in such an intimate setting had other limitations which could only be corrected by contact with other groups and other minds.

It soon became apparent that the local groups that had been organized needed more stimulation than the Farm Forums and Community Schools could give them. Farmers and small town people needed contact with city people and vice versa. As World War II wore on there were increasing demands to implant the Four Freedoms more firmly in our own society besides defending them in Europe and in the Pacific. It was a time of nation building. The Canadian Association for Adult Education, the Canadian Federation of Agriculture, and the CBC had all been created in the 1930s. All were offering resources at the local as well as the national level that we were able to utilize. At the beginning of the war the National Film Board with a nation-building mandate had been established. We became involved with the NFB in program planning and, when the film circuits were promoted, we undertook to organize film showings in the anglophone communities. By 1942-43 we were showing films once a month in 50 centres with an estimated audience of 8,000. Another factor that bore in on me heavily was my interest in cementing relationships with French-speaking individuals and organizations in Quebec. Coming, as I did from western Ontario, I found constant stimulation in the bicultural nature of communities I worked and lived in. I had been invited to attend events put on by the Schubert Music

Club in Sherbrooke, a strong organization supported by both French and English. It seemed everyone who attended was bilingual, a potential for all of Canada.

A new goal seemed to be emerging in the first years of the project. It was a question of lifting the consciousness of others besides those in our adult education groups, namely the formally recognized community leaders: clergy, teachers, librarians, municipal officers, journalists and the like. We had also to consider the media and beyond. Since local leadership was entwined with governmental departments and their officials, the mass media, and the apparatus of the national voluntary organizations, we had to look toward these agencies, too.

In an effort to bring together all these disparate elements of social action we organized Camp Macdonald, a venture in leadership training which had met at camp sites on Lake Memphramagog from 1941 to 1945 and in subsequent years in the Laurentians. Colleagues from Laval University and francophone organizations began attending in 1942. Eventually the camp, which we referred to as a "school for community programs" became a joint venture with Laval under a composite name equally meaningful in both languages: Laquemac. "Community programs" seemed a more appropriate rubric than adult education for the various activities we were trying to encompass in this project. At Laquemac, which ran for 10 days each August, the emphasis was on community, on learning to live creatively in a community, and on acquiring the capacity to utilize the rich resources available in our society, while at the same time rejecting the cheap and tawdry.

We assembled a large library of books, pamphlets, records, films, and other materials. The school was first of all library-centred. The library was placed at the most central and available place in the camp and was open day and night. Similarly the staff members or "teachers" were seen as a

resource, not as authorities to stand up and lecture from prepared texts. In fact, the camp-school was seen as a temporary community which would provide a living classroom from which to learn about community structure and management.

In the day-to-day life of the camp-school the normal problems and decisions usually assigned to a steering committee, or staff council, would be handled by an elected council with many decisions debated openly at regular "town hall" assemblies. As events unfolded over the 10 days, there was opportunity to learn by doing. Consequently, skills like leading discussion groups, singing, skits, and recreation were acquired in a practical way. The planning, practice, and evaluation occurred in small groups, while the presentation and the experience in leading would occur in the community assemblies.

An important learning experience was the bilingual and bicultural nature of the school-community. This feature, of members of the two language groups living, playing, and learning together, offered an exciting, enlightening experience. There was no simultaneous or concurrent translation. Those who were unilingual had to cope as best they could. There was no segregation in room assignment and very little in the dining room. Biculturalism was a practical living experience for everyone, and for most, surprisingly stimulating and very pleasurable to boot.

I have statistics for Laquemac in 1946. The total number of participants was 130 of which 118 were from Canada, and 104 of these from Quebec. The balance from other countries. There were 86 from urban centres and 32 from rural centres. The occupations represented were significantly diverse: social workers 22, professors and teachers 19, students 16, volunteer community leaders 20, administrators of adult education 13, librarians 4, architects 2, employees of CBC and National Film Board 13, editors and writers 3, civil servants 5, others 3. In 1946, 62 men attended and 68 women of whom 63 were francophone and 67 anglophone.

This unique experiment deserves a more detailed analysis than is possible here. Suffice it to say extensive documentation is available for such a study.



Camp Laquemac on the shores of Lake Memphramagog.

Evaluation

After nine years of innovative activity I began to yearn for a return to the contemplative preoccupation with books and academic disputation. Graduate work was indicated and an opportunity offered itself at Michigan State. I secured a leave of absence for one year, with Harry Avison, Professor of English, handling the administrative end of the program but without time or budget for extensive fieldwork. The office had long since been removed to Ste. Anne de Bellevue, and the program revenues had enabled us to engage additional staff. A meagre central budget was still supplied by Carnegie, support that was about to be cut off. My salary was now \$2,700, even in 1947, inadequate for a married couple with two children. Dr. Brittain could promise nothing better; there was no prospect of the university giving such a significant program budgetary support. I had no alternative but to resign. This left me free to continue graduate work and enabled Professor Avison to grasp the responsibilities of office as firmly as his time would permit.

All the activities described above continued with the autonomy already built into the structure rendering them less susceptible to the vagaries of university support. The Farm Forum evolved into the Quebec Farmers' Association. The Community Schools continued for some time, the one still continuing to operate is at Cowansville. In the interim school boards began to offer night courses, but without the stimulation and excitement of the

assembly periods with singing, dancing, and lectures on public affairs. Laquemac continued well into the 1950s. When I joined the staff of the Canadian Citizenship Branch in 1954, I had the pleasure of securing federal support in view of its contribution to national unity. However, neither Laval nor McGill was able to invest the creative energy needed to enlarge and refresh the impulse that was embedded in the original design. Had there been that larger vision, the history of Quebec and Canada might have altered. What was needed was not a larger Laquemac but many other similar initiatives. The point to be remembered: race relations were never discussed at Laquemac as an abstract principle. We simply worked together. Differences of language and culture were accepted as an interesting and enriching feature of our national life. In due course Canada had to resort to the lamentable imposition of legal and even military expedients.

This account is admittedly coloured by personal opinion and recollection of events and experiences that occurred more than 40 years ago. My overriding thought is one of gratitude for the freedom to initiate the experiments referred to here and for the response they received from those who entered into these activities.

References

- Renee Morin & Harold Potter, *Camp Laquemac, a Bilingual Adult Education Training Centre*, Toronto, Canadian Association for Adult Education, 1954.
- R. Alex Sim, editor, *Canada's National Farm Radio Forum*, Paris, Unesco, 1954.

In Casual Conversation with a Visiting Scholar from China

by Hazel M. Clarke

The Department of Agricultural Engineering and other members of the Macdonald community said farewell to its first Visiting Scholar from the People's Republic of China with a party early last year and everyone enjoyed it, but none more than the guest of honour Mr. Yang Yuan. After a stay of two years, Yang Yuan told me in an interview shortly before leaving for home that the party was fantastic!

"It is the first time that I have been abroad and therefore my first goodbye party. I will never forget it, the people, and all their good wishes."

He said that he now considers Macdonald to be his second school. "I want to thank the many Canadian people who helped me learn new technology. The campus has left a deep impression on me."

Yang Yuan has been a lecturer in the Department of Agricultural Machinery at the South China Agricultural College in Gaungzhou (Canton) since 1974. (Actually Mr. Yang pointed out with pride that the college was granted university status in 1984 while he was away). He explained that during the 10-year period of the cultural revolution everything stopped, including cultural activities. "Now things are changing," he said, "and if you work hard you may become an assistant or a full professor."

In 1964 Mr. Yang graduated from Jiao-Tong University where he had studied in the Department of Mechanical Engineering. "When I was young I had a very simple idea. I wanted to learn about machines. Jiao-Tong University is a famous industrial university in the northwestern part of China, far from Canton, and I was lucky to enter it as there were hard exams to pass."

The government sent him to work as a technician at the Shanghai Agricultural Machinery Institute where he did scientific research on rice transplanters, harvesters, pumps, ploughs, and so on.

"I designed a rice planting machine at Shanghai which was manufactured. It has a seat in the back." This Mr. Yang pointed out was a great improve-

ment over peasants having to stoop for eight hours a day.

This knowledge would be indispensable in the southern part of China and, as his family was in Canton, he applied for a change which was granted and he went back to his hometown.

South China Agricultural University is about two or three times the size of Macdonald and its farm is also bigger. Mr. Yang said that it is the biggest university in Canton city — actually it's situated in the suburbs behind two small mountains. There are some 4,000 students and the number keeps going up.

"We have two terms: the winter term from September until nearly the end of January. Term finishes just before our Chinese New Year," he said, "and then there is spring term

from late February until the end of June."

Agriculture is very important in China, Mr. Yang told me, and all children from a very young age must learn about plants and animals. "My wife is a primary school teacher and the children are taught about agriculture at that level as well as at high school. At the university level," he continued, "it usually takes four years — sometimes five — to receive an undergraduate degree. It depends on the course. He said that most of the college grads go back to the farm, a few go into government agricultural departments and some become teachers.

China, with the help of cultural and scientific exchanges, is trying desperately to catch up with 20th century technology. In his thank-you speech at



Celebrating the Chinese New Year (note tree in background) and wearing a new tie, Yang Yuan and his wife Ma Xiu Ying, and children, l to r: Yang Sao Zin and Yang Sao Jet.

the farewell party, he said, in part, "As you know, China is beginning to import advanced technologies and equipment... It is not easy to provide enough food, clothing, housing, and jobs in China because of our one billion population. The Chinese people are confident that they can build their motherland and modernize her as soon as possible. We hope to build our country peacefully and make friends with all the countries in the world... An exchange in culture and scientific research will expand now and in the future."

For Mr. Yang personally, the government wanted him to study computers and agriculture. "They chose me to go abroad and I took a six-month English course. Friends told me about McGill — that it was a famous university and was very old, which I found interesting as our culture goes back so many centuries. Through reading I learned about Macdonald College. I wrote to Dr. McKyes, Chairman of the Department of Agricultural Engineering, and he sent me information. I also received a very friendly letter from Principal Johnston.

"When I came here I had only a meagre knowledge of computer science, but fortunately my studies were fully supported and patiently guided by Professor Robert Kok who taught me just about everything about computers. I know the principles of computer software technologies and I took part in a research project with Professor Kok on the simulation of the earth's surface in three-dimension with an IBM PC computer to create a package program. This was part of a research project on the use of robots in agriculture. We were especially interested in walking (instead of wheeled) agricultural robots which could operate efficiently on rough terrain and under difficult circumstances. The availability of such machines will allow agriculture to be practised in many areas now not accessible but which have a high production potential such as swamps, rice paddies, and steep hillsides. They could also be very useful in forestry and fish farming."

Mr. Yang planned to take reference books and other materials back to China. "I may be able to teach some courses about computers," he said, adding that he expected the computer would help him with his designing of farm machinery as well as its main-



Yang Yuan at his farewell party with staff from Agricultural Engineering, l to r, Vijaya Raghaven, Mary Lynn McWade, Robert Kok, Ted McKyes, and Eric Norris. The flags he presented as gifts are in the background.

tenance and repair.

When I asked how our agricultural machinery compared with that found in China, Mr. Yang, who has travelled extensively in his own country, pointed out: "In China we think in terms of north and south and the machinery in each area is quite different. In Heilongjiang Province, for example, in northern China, the latitude is the same as Canada. Several professors from Macdonald have visited this province and will agree that the weather is similar, the crops such as wheat and corn and the type of farming and machinery are much the same.

"South China, where I live, has the same latitude as Mexico. It's a subtropical climate — very hot and humid. Rice is the main crop so there is always water in the fields and the machinery, of necessity, must be smaller." The rice planting machine Mr. Yang designed, rice harvesting machines, tractors, ploughs — all would be smaller because of the land being so soft. In some areas such as in the mountains, for example, where it is very difficult to use tractors and other machines, women still plant rice by hand. For some other tasks buffaloes are used. It must be remembered, too, that machinery is expensive and repairs are not always easy to make, but the government is taking steps to improve conditions.

Sugarcane is another important crop in South China. "Therefore," Mr. Yang exclaimed enthusiastically, "in South China the food is always a little bit sweet which I like. I have a sweet tooth! We also have fish farming and, of course, many kinds of fruit can grow all year.

Mr. Yang pointed out that raising pigs and poultry — chickens, ducks, and geese — was important all over China.

Being a Visiting Scholar in the Department of Agricultural Engineering didn't necessarily mean that Yang Yuan's movements were restricted to the area. He managed to do quite a bit of travelling in the two-year period.

"I went to Cuba and about three months after I came I went to the United States with Professor Kok and some students to participate in the American Society of Agricultural Engineers (ASAE) meetings in Delaware. I came back via New York which I found dirty — and big! Early in '85 I travelled to Guelph to attend farm machinery modernization systems courses given by Professor John Ogilvie. I thought his courses would be helpful for me back in China. I also visited greenhouses in that area. I went to Waterloo University because I knew it was famous for its computer programs and to the University of

Toronto so that I could learn more about the Canadian educational system. Closer to home, Professor Bob Broughton took me to farms in the area to look at irrigation systems, to see dairy farms, and to visit with farm families.

"In the two years that I have been here," Mr. Yang said, "I have found that your people are very friendly and your country is very beautiful. I like

your country, but the winters are too long and too cold! Because I had been to North China I knew what to expect, but we never have any snow in Canton."

Yang Yuan said that it might go down to 10 degrees for two or three days in the winter and they would find that very cold. Then it would go up to 15 or 18 degrees. Summers are very hot and humid, and they have a half

hour of heavy rain every afternoon. Then it becomes very bright and the plants grow very fast. Summer temperatures range from 20 up to 38 degrees and it doesn't cool down at night. Mr. Yang said that as a result swimming is very popular and houses have every window open as well as ceiling and table fans.

Our winters may not have been to his taste but Canadian desserts certainly appealed to Mr. Yang's sweet tooth. "The food is very different, but the taste is very good and I particularly admire your country's cakes and pies. Fantastic."

Salads were something else as Mr. Yang said there are no salads served in China — all vegetables are cooked. "The first time I had salad I wondered how I was going to swallow it," he said. Eventually he did and is now used to them.

At the farewell party in his honour the food was international and many of the people were from different countries of the world. "There were six languages being spoken," he said, "English, French, Spanish, Arabic, Chinese, and Indian. He emphasized how grateful he was to so many people, to his friend Richard who had helped to organize the party, to the professors in agricultural engineering, including Professor Jutras at whose home he stayed for several months and whose daughter was one of his English teachers, and to everyone for the most appropriate gifts he received, which included a home computer and a recorder. Mr. Yang, in turn, presented gifts to Professor McKyes for the department: the Chinese flag with Chinese letters, which say "long live the relationship between Chinese and Canadian people" and to Professor Kok which say "to a good teacher and my good friend."

He was leaving new friends but more important he was going home to a wife and two sons who hadn't seen him for two years. Mr. Yang particularly emphasized the gratitude he felt for his university, his department, and his wife and family who all supported him in the decision that he come to Canada "so that I could bring back new technology to help improve my teaching methods and thus help the students and, therefore, the faster modernization of my country."

He worked hard to achieve this goal through study and research.

Challenges to cope with

WE ALSO OFFER YOU
AGRICULTURAL LOANS
GUARANTEED BY
THE QUEBEC
GOVERNMENT

In Agriculture, there are daily challenges. To cope with these means hard work for you and sound financial planning.

The First Bank Agri-Services offer you a complete program of farm financing and management to:

- increase your farm income
- control your operating expenses.

The First Bank Agri-Services the protection of your farming business.

Come and see us !

TOGETHER



FirstBank Agri-Services
Bank of Montreal

MACDONALD WOODSMEN: A Winning Tradition

by Hazel M. Clarke

The 25th anniversary reunion of Woodsmen and Woodswomen which was held at Macdonald during Reunion last fall brought back memories for those who had been on the various teams over the years: memories of winning and of losing, of early practices and late night parties after a competition, of bitterly cold weather, of bus trips, and of friendships made with team mates on this campus, at the University of New Brunswick, the Nova Scotia Agricultural College, and others, and with two special people: coaches Bob and Johnny Watson.

We asked Bob, who, in 1979, retired from his duties as Foreman of the Morgan Arboretum and as coach, and Johnny, who took over his dad's responsibilities, to reminisce a little for us: to talk about the last 25 years, the different teams and individuals, the competitions, and the highs and lows of being a coach.

Bob remembers that Woodsmen started in 1954 when the McGill Outing Club, which was sponsoring their Second Annual Intramural-Intercollegiate Woodsmen Competition, wanted wood for their meet and Macdonald was invited to send in a couple of teams. "I was asked to coach the boys. It was more for fun for us than a serious competition. Dean Brittain, Professor A. Banting, and Professor Jim Cooper of Agricultural Engineering helped me organize the teams and sharpen tools and so on. Those professors were a great help. and I could always count on them. Jim Cooper was a good friend and adviser until I retired in 1979. We had a crosscut saw, a swede saw, and axes which were the ones I used in the Arboretum. On October 15, 1954, the team, Professors Banting and Cooper and I went into Forbes Field at McGill and competed against 10 other teams and came first and second, much to the honour of the McGill Outing Club and, of course, there was great rejoicing at Mac that night."

The events at that first meet for Macdonald teams were felling and twitching, chopping, splitting, buck sawing, crosscutting, pulp log throw-



Bob Watson, Professors Cooper and Banting and the team at McGill in October 1955.



Coach says practice!

ing, log rolling, and a water boil. Macdonald was ahead from the beginning with 714 points out of a possible 800. They were winners again in 1955 and 1956. Forestry Engineers from Laval took the title in 1957.

Finally the headline "Woodsmen to Invade Campus" and the birth of the Intercollegiate contest to be held at Macdonald. For many years an Interclass Woodsmen's Competition was held during Carnival Week, but this was the first year that teams from other colleges and universities were invited to compete. The competition,

which was first held up in the Arboretum with transportation provided for spectators and then later moved to the lower campus, was a great success and 26 years later the Intercollegiate Woodsmen Competition is ranked as one of the highlights of the year by Macdonald teams and by competitors from other universities and colleges.

How has the event changed over the years? "Well their equipment is better," Bob said. "Axes, log rolling cant hooks are all of the best quality. There is no more using Arboretum equipment; they have their own. There

QWI

EXECUTIVE CORNER

As many of you know, the Raptor Centre at Macdonald College was looking for people to help sell tickets on a drawing for five Bateman prints. This was in aid of the Raptor Centre which is in dire need of money, and many WI members helped out by either buying or selling tickets.

The drawing took place on Saturday, February 8, at Macdonald College. The five winners were: Mrs. A. Petersen, Beaconsfield, M-F Bertrand, Montreal, Mr. and Mrs. R.M. Hovey, Baie d'Urfé, E. Meeks, Montreal, and C. Weagart, Morrisburg, Ont.

The raffle grossed about \$14,600, and we extend many thanks to the Counties who came to the aid of the Raptor Centre.

Sheila Washer Provincial Secretary

Anniversary Picnic

The planning committee for the 75th Anniversary picnic in Dunham has been busy. Missisquoi and Brome counties are working together to provide an interesting day of festivities on July 26th. The theme of the day is "A Picture of Yesterday." We are hoping to see a lot of people dressed in fashions of that era. Since this is a family affair we hope some of the men and children will also dress in appropriate fashion.

We hope to have a handicraft display. If you would like to display something, please bring it or mail it. We are also having a sale table to help defray some of the costs. We are not making this compulsory but hope W.I. members come through in their usual wonderful way. In keeping with the theme there is to be a contest for the best hand-decorated parasol with judging to be based on originality, eye-appeal, suitability, colour combinations, and work involved.

Registration will be from 9:30 a.m. until **PICNIC** time. After lunch we hope to provide a program of entertainment that will appeal to everyone. Plans are still tentative, but we are planning an official opening, a parade of fashion, entertainment, a short resumé of WI history, contest results, and a social time until well into the evening. We hope to make it a memorable event that WI members and their families across the province will remember and speak about for the next 75 years! Do come and help us celebrate!

Pearle Yates
Dunham WI

FWIC COOKBOOK

The Federated Women's Institutes of Canada are in the process of compiling, with the help of the provinces, a cookbook. Quebec was asked to contribute to the section on vegetables

and Ruby Girard, Provincial Home Economics and Health Convener, took on the task of compiling, testing, and selecting the appropriate recipes. She recently completed this work and sent the chosen recipes along to FWIC.

She states that quite a few recipes were received from QWI members, and about 10 per cent of the branches had helped.

There were all types of recipes; baked, stir-fried, top-of-the-stove, cold, and many more. Ruby says that she gained six pounds testing the recipes.

Other testers were family and friends and, as this had been during the Christmas holidays, no one knew that they were tasting a new recipe; whoever came to eat that day tasted the recipe of the day.

Ruby states that she really enjoyed doing this project as she enjoys cooking and trying out new ways with old recipes.

She also tested those recipes sent in using no salt and found that she lost

her gained six pounds while trying those recipes and advises those who are trying to lose weight not to use salt.

The Bean Salad recipe is one of Ruby's favourites.

Bean Salad

- 1 tin green beans
- 1 tin yellow beans
- 1 tin lima beans
- 1 tin kidney beans
- 1 cucumber chopped
- 2 medium onions chopped

Drain all beans and place in large dish.

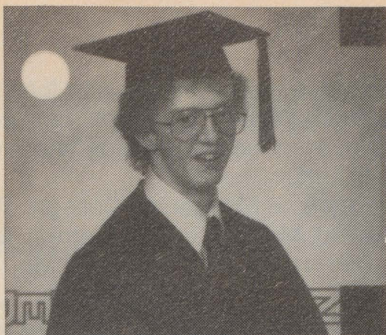
Dressing:

- ½ cup oil (125 ml)
- ½ cup vinegar (125 ml)
- ½ cup sugar (125 ml)
- 1 tsp salt (5 ml)
- ½ tsp dry mustard (2½ ml)
- ¼ tsp garlic powder
- pepper to taste

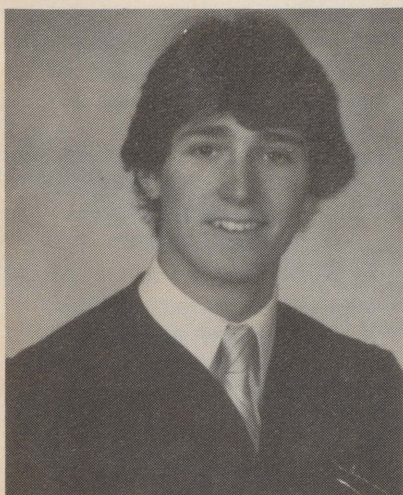
Pour over beans and let stand for 24-28 hours.



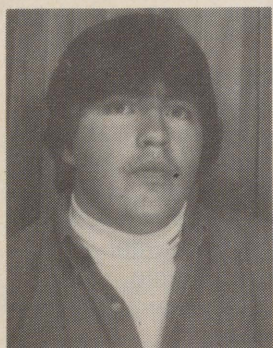
Matagami WI gave Mrs. M. Gilmaster an Abbie Pritchard Throw. As Mrs. Gilmaster is in Montreal at present, Matagami asked Lucy French, above, and June Kelly of the West Island WI to make the presentation.



Jean Christophe Couture



Steven Halsall



Donald Macaulay



Heather Morrison

Florine Goodfellow Provincial Convener, Citizenship and Legislature

I was born and had my early education in Donnacona, Quebec. I attended and graduated from the Commissioners High School in Quebec City and I am a graduate of Macdonald College School for Teachers. I began teaching in Valcartier where I met my late husband, Willard Goodfellow, a turkey farmer. We had a family of one son and three daughters.

I taught in the meantime for nine years in Valcartier and for 16 years in Quebec City. I joined the Valcartier W.I. in 1937, and I have held most branch and county offices. I am also a past matron of Victoria Chapter #25, Order of the Eastern Star. I have also received a Life Membership from the Valcartier W.I.

My hobbies and pastimes include knitting, crocheting, Eastern Star, and Institute work. I know that I shall enjoy my convenership work.

My address as of March is R. R. 1, Lancaster, Ontario, K0C 1N0.



June Kelly Provincial Convener, Education & Cultural Activities

June Kelly grew up in Montreal along with an older brother and sister. She attended school there, then took a secretarial course and worked both in Montreal and Lachine until she married in 1954.

June and her husband Jack live in Pointe Claire, some 15 miles from Montreal in a home that has been in Jack's family for some 65 years. They raised five children, two of whom are married.

Before joining the West Island branch of the Women's Institutes in 1978, June did voluntary work for the St. John the Baptist ACW, the Briarwood Elementary School library, and the Lakeshore General Hospital Women's Auxiliary and taught handicrafts to school children and Brownies. She still knits for the hospital's annual bazaar and works in the gift shop every month. She also does voluntary work at the Beaconsfield Public Library as needed. When her children had grown up, June worked part time in local wool, gift, and antique shops.

June Kelly has been branch and county president and secretary and has held various convenerships.

With hands that are seldom idle, June relaxes by knitting, hand quilting, sewing, crocheting, and doing various other needlework. She also enjoys such pastimes as making hasti notes, stripping and refinishing antique furniture, and collecting horse brass.

June is enjoying her term as convener and enjoys hearing from other WI members. She is willing to help others in any way to perfect their crafts and hopes to learn from them as well.



Paula Ward

Congratulations to the Inverness branch on their 65th anniversary; to Aylmer East on their 60th; and to the Howick branch on their 75th anniversary.

Condensed Milk

1 cup powdered skim milk
1/3 cup boiling water
3 T melted butter
2/3 cup white sugar

Blend until partially thickened (consistency of condensed milk). Use in any recipe calling for sweetened condensed milk. It is just as good, much cheaper, and always on hand.

The above students received bursaries from Compton County WI. They are graduating from the Alexander Galt Regional High School. Two of the bursaries commemorate the International Year of the Youth. Compton have been presenting bursaries for 34 years, in all a total of 88 bursaries. Compton also dedicated a plaque in memory of Life Members at a lawn party at the Compton County Museum.

IN STITCHES

by Liz Jennaway-Eaman
Faculty of Education

There are a great variety of interfacings on the market. Have you ever wondered which one to use for the best results? At a sewing seminar I attended recently, the speaker recommended keeping a generous supply (a metre of each) of the most commonly used interfacings on hand in order to experiment with several types before making a final decision.

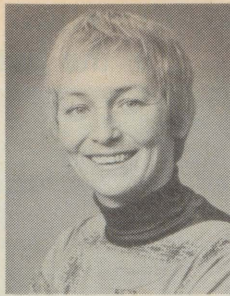
After preparing the fabric by laundering in the manner you intend to use once the item is finished, cut out the pattern.

Use a leftover scrap of fabric at least 7.5 cm square (3 inches square) and attach a sample of interfacing by fusing or stitching. When the results are satisfactory (you may want to launder the sample again to check), proceed to cut and interface as required by the pattern. **HINT** Label with the type of interfacing used, and save the test scrap for future reference.

Many of the interfacings are guaranteed to stay fused through washing or dry cleaning so examine the label for guarantees. One of the reasons interfacings do not measure up to expectations is because application instructions are not followed precisely. If told to steam press for 10 seconds in each area, exert pressure, **do not move the iron**, and count slowly. Overlap areas pressed for best results.

Try to match the characteristics of the fabric and the interfacing. If the fabric has a permanent press finish, there is an interfacing called Sta-Shape durable press which has a similar finish. Light weight knits which stretch need an interfacing which will stretch such as Easy-Knit, Easy-Shaper, or Add-Shape Feather-lite, but make sure the stretch of the fabric and interfacing correspond, as some have a one-way stretch.

A garment may need more than one type of interfacing. A crisp tailored look at collar and cuffs may be achieved by using Shirt-Fuse. If you want to obtain the best possible results, keep several types and weights of interfacing at home and spend a little time experimenting. I think you will appreciate the difference as you gain experience.



Mottoes: Each bit of bright publicity to catch the reader's eye — not only lifts your ego, but aids the W.I., and if you don't think it pays to stick together,

think of the banana; as soon as it leaves the bunch, it gets skinned!

Roll Call: Give an interesting fact about Alberta.



Members of the West Island WI served lunch to judging teams, other competitors, and officials at the recent Livestock Show at Macdonald College. Left to right: Ruth von Brentani, Cindy Teel, Hilda Eisenhut, Joan Boara, June Kelly, and Norma Harkness.

Expert Offers 11 Life-Saving Tips For Americans Travelling Abroad

With the threat of terrorism spreading throughout the world, Americans travelling abroad must be especially cautious while in transit, both in their demeanour and presentation. The following 11 life-saving hints to help deter terrorist violence were printed recently, and we thought you might find them of interest, should you be travelling.

1. Select an airline with the best reputation for security, not necessarily convenience or price.
2. Always try to get direct flights. Each time a plane lands, the potential for a hijacking incident becomes enhanced.
3. Never travel first class. It differentiates the group from everyone else on the plane and emphasizes a "fat cat," capitalistic profile of the group. In addition, terrorists usually make the front cabin their base of operations during a hijacking.
4. Instruct group members not to select aisle seats. Sitting in aisle seats brings them closer to the terrorists, and they will be perceived as a greater threat than if they were in centre or window seats.
5. Have members inspect the contents of wallets, purses, and luggage carefully prior to departure. Tell them NOT to bring along anything that can be politically provocative, from business cards to war veteran and Boy Scout identification.
6. Tell group members to carry pictures of family with them and, if they do not have any, to borrow some. They must try to make themselves as human as possible in the eyes of a terrorist.
7. Tell members NOT to carry briefcases along with them. Again, it underscores the "rich business-person" profile.
8. Have group members dress casually, never in business suits or expensive garb.
9. If anyone in the group wears glasses or is on medication have them bring along back-up supplies.
10. Instruct the group to be friendly and pleasant with fellow passengers and crew members. You never know who can be trusted, and it is always better to have these people on your side.
11. Tell the group to avoid giving fellow travellers personal information that might impress them.

ARGENTEUIL Arundel Mrs. P. Graham gave a most interesting plus educational talk on her trip with her husband to Austria, Romania, Bulgaria, Yugoslavia, Hungary, Turkey, and Greece.

Brownsburg Mrs. Brian Clark gave a very interesting illustrated lecture on her exchange year in Switzerland and Italy as a Diploma graduate of Macdonald College.

Dalesville-Louisa A tour was arranged to view the operations at the Price Wilson Plant in Lachute. Mr. G. Stevenson and Mr. J. Campbell conducted the tour with an explanation of the details that go into making the Product Lines-Paper Bags, Jiffy Bags, Industrial Paper Towels, Folding Cartons and Counter Rolls.

Frontier Jean Clarke showed a film of Keith Pollock's farm near Lachute.

Grenville a member's son has donated a wheel chair and a pair of crutches to the branch which may be used by anyone in the community, and they visited the Manoir in St. Philippe at Christmas and patients received a gift of homemade treats.

Jerusalem-Bethany a 4-H plaque, which is donated each year, was won this year by David Hodge for the most outstanding contribution to the Club in the Junior Division.

Pioneer contributions were made to the 4-H Club and the L.R.H.S. "Spectrum" and each member donated a sum of money for the Christmas Fund at the Douglas Hospital.

Upper Lachute East End a donation of bed linen and towels will be sent to the Citidel (emergency home for women) in Lachute.

BROME Abercorn bought a schoolhouse in 1954 where they have since held their meetings and last summer they made extensive repairs to the building to preserve it; the building was built around 1875.

Austin branch has joined the Memphremagog Library.

South Bolton are currently working on a quilt depicting the birds of all the province.

Sutton have entertained the senior citizens group called the "Happy Gang" at a luncheon.

CHATEAUGUAY-HUNTINGDON Aubrey-Riverfield The members performed a skit using a genuine school report by a school inspector of 100 years ago from the Fertile Creek School. The children were Joan Ness, Claudia Hannah, Annie Hamilton, Aubrey Reddick, and Shirley O'Hanlon, the teacher was Roberta Brocklehurst. They all had dressed in costumes of that time. Mrs. Brocklehurst also wrote the skit.

Dewittville John Fingland, a local goat breeder and cheese maker, talked about his business.

Franklin Center Mr. Allister Sommerville discussed his new book *Hemmingford Then and Now*.

Ormstown Mrs. P. Collier talked of the trip that she and her husband had taken to the British Isles.

GATINEAU Wright Notary, Miss Major, spoke on the changes of laws in Quebec concerning husbands and wives. Mrs. Cartier showed slides of some of the places where she and her husband worked, Beruit and others. Members also served tea and sweets at the Ottawa Winter Fair.

MEGANTIC Used stamps were collected and mailed to the Leprosy Mission. Two large parcels of pill bottles and knitted bandages were mailed to a hospital at Liberia, Africa, by the **Kinnear's Mills** branch. They were quite pleased to receive a reply. Eye glasses, odd lens and one hearing aid were given to the Lion's Club.

MISSISQUOI Each branch was asked to write a brief history which is to be published in the annual publication of the Missisquoi County Historical Society. Prizes were given to elementary students for the most improvement in

SAFETY FIRST ... in the Bathroom

Keep disinfectants, toilet bowl and sink cleaners and sprays on a high shelf or locked cupboard, not under the sink. Keep mouthwash out of reach of children. It contains a high percentage of alcohol and can be deadly if swallowed by a child. Keep medications locked up and put the key in a safe place. All razors should be out of reach of children. Dispose of them carefully. Remember small children love going through wastepaper baskets.

Install a hand rail, either level or at an angle on the wall beside the bath. Make sure the screws are long enough to go into the uprights in the wall and not into the wall boarding. Use a rubber or plastic mat with suction cups or stick skid-proof "flowers" on the bottom of the bathtub to prevent slipping. These are safety measures for all ages.

If you have scatter mats on the floor, make sure they have non-skid backs or anchor them with special non-skid tape.

Keep all electrical appliances out of the bathroom. A plugged-in radio falling into the bathtub could electrocute a person.

If you must install a lock or hook on the door, put it beyond the reach of small children. It is quite a job to have to remove the door if someone gets locked in!



PLEASE TAKE NOTE

Don't forget the **PICNIC** at Dunham in July. See the article by Pearl Yates in this issue. **SEE YOU THERE!**

French in the English school, and one for the most improvement in English in the French school. A member spoke on a trip she and her husband took on a Freighter up the north shore of Quebec.

MONTCALM Rawdon Sponsored a Valentine Talent Night which was a great success. Courtesy Meals will be given to 12 shut-ins twice a week instead of the once a week as before. Plans are being made for their spring Card Party on May 22.

PONTIAC Beechgrove Rev. Rob Olophant spoke on the Distress Centre in Pontiac. A demonstration of articles made by the 4-H girls — fluffy bunnies, ducks, and chickens to adorn Easter baskets. A visit to MacLaren's Mill in Wakefield. Report on computer wares display by Jean McMillan.

Bristol Donations have been made to Avoca House, refuge for battered wives, and to the Recreation Centre. Had an Adelaide Hoodless Homestead birthday party. "Wrinkles" steals the Christmas season.

Fort Coulonge will be compiling a history of the English education in the village. Members and guests enjoyed a talk given by Earl Lindsay of Renfrew who showed slides of the Canadian's team trek to base camp on Mount Everest in 1982. Base camp was at 19,000 feet. Mr. Lindsay was part of the team, though not a serious competitor in the race for the top.

QUEBEC Valcartier Their Year of the Youth project is to furnish the Beaver and Cub room in the Community Centre with tables and chairs.

ROUVILLE Abbotsford World Food Day took the form of a teaching one this year rather than a money raising day and what better way than to educate the young as to where food comes from, especially one of their favourite fruits — the apple. Some 106 nursery school children were taken to Rowell's apple orchard. The chil-

dren strolled through the apple orchard with their teachers and parents as the pickers filled the bins with apples. One group of children was fascinated with the brown caterpillars they had found and secreted them into pockets to take home; another group were treated to a horse back ride when a couple of neighbours stopped by. The children were given a bag each to gather their own apples and over the next week the teachers and parents helped the children to make them into juice, sauce, cake, pies, and muffins.

SHEFFORD Granby Hill Gave prizes in Spelling and French in three grades in Parkview. One branch held a summer community picnic and a winter family picnic. A former member of 103 years of age was visited, taken cards and gifts on her birthday.

SHERBROOKE Ascot Had a speaker on The Townshippers Association which has a membership of 8,000 people.

Belvidere Discussed the commemorative stamp in honour of Emily Murphy, the first President of the Federated Women's Institute of Canada, that has been issued.

Brompton Road Worked in a cancer room and have sent a case of oranges to the Wales Home for Christmas.

Lennoxville Held a talk on the fastest growing agricultural industry in Quebec, growing trees.

Milby Gave 10 pairs of mittens to the elementary school.

STANSTEAD Ayer's Cliff Have sold daffodils in aid of the Cancer Society and the members are busy completing a quilt.

Beebe Sent a box of gifts at Christmas to the Dixville Home.

Hatley Gave cheer baskets on Valentine's Day.

Hatley Center A donation has been sent to a kitchen in Sherbrooke.

Stanstead North Sponsored an essay and poster contest in observance of World Food Day, prizes were given to the top three in the three categories.



Bob and Johnny Watson flank one of the successful girls' teams.



This isn't practice. This is the real thing!

are more teams now. In the beginning there were six or seven, now there are over 30 that may compete in a given year.

"I know that the first time we went to the University of New Brunswick there were 10 or 12 teams and we thought that was a big event. We had chopping for speed, splitting, swede saw, crosscut sawing, log rolling, a canoe race across the St. Johns River in Fredericton, pulp throw, fire lighting and boiling water. When we held it at Macdonald instead of canoe racing we had a ski or snowshoe race and, as the

years went by, we kept adding events, but we always had the awarding of trophies and the beer bash at night or in the afternoon when we finished. It was always very exciting from the first day we started practicing until the night of the competition waiting to see who had won. Off the top of my head, I can only remember the names of two of the students on the first team: Professor Hamilton's son, Bobby, and Bill Graham who did post graduate work at Macdonald after he got his degree.

"We went to U.N.B. one year and

they had two girl forestry students on one of their teams, and I remember they brought a girls' team to Macdonald soon after that." The Mac Lassies team began in 1971 and in 1975 for the first time Macdonald sent three teams to U.N.B., two men's and one women's. The women's team came in second. That year at Macdonald the men were the champions and went on to win three years in a row!

As time passed, the rules got stricter. "At first," Bob recalled, "it was just bull away through the event and first done was the winner. Then we got more rules, such as a certain length for snowshoes and handles for throwing axes. With rules came disqualification for improper equipment."

I think that early morning practice probably bothers the imagination of the non woodsmen more than it does the participant. Bob explains the early start: "I had to work and had my responsibilities in the Arboretum so if students wanted to be on the team, they had to get up early and practice from 6 to 8 a.m. They also had to get ready for classes around 9 a.m. or earlier."

Bob's son, Johnny, who not only took over as Foreman of the Arboretum but also as coach of Woodsmen, takes a more hard-nosed approach to early morning: "Six o'clock practices show me who is serious about becoming a Macdonald Woodsmen and who is not. I am looking for people who are keen, and I find this is one way to separate the men from the boys. The students that come out are not different from other students; they do, however, want a little more out of campus life than just working with pencils. They find out very quickly the difference between Mac Woodsmen and other woodsmen teams. We work hard and stress consistency. We keep our points up in each event, but we aren't necessarily interested in all the small trophies — we aim at the overall. Our teams have always placed high in the standings, and both men's and women's teams have won more competitions than any other team in Woodsmen. It will take a long time for some other college to catch us! The men have won 14 of the last 23 competitions and the women have won 15 of the last 23. The lowest placing was fourth for both men and women with most of the other placings being second.

"Mac Woodsmen have always been up to par with any teams we have ever competed against," Bob said with pride. "Of course, part of a team would graduate then it would take a year to get the new boys and girls used to the tension in competition and to learn the skills needed. One thing I was always proud of: my teams were gracious winners and good losers. I was always proud to be the Woodsmen coach of Macdonald. We always had a good name for sportsmanship wherever we competed."

Special teams or individuals with specials skills: "I hate to name names," both Bob and Johnny said, "because someone is always forgotten." Bob remembers, "Andy Terauds as a terrific chopper and Herb Laroche was the fastest snowshoe racer that I ever saw, Bill Graham was the fastest swede saw man, and Donny Dunn was the best axe thrower that I can remember." Bob thinks that the crosscut and speed chopping were the most popular events during his time. "Of course," he said, "Johnny has put in a few more events such as pole climbing." Pole climbing, fell and twitch, water boil, speed chopping, and snowshoe racing are, according to Johnny, today's most popular events.

"I don't feel there are special teams or special individuals," Johnny said. "They are all special. They all have specific responsibilities, and they all carry out their responsibilities as best they can. There have been teams that have placed in the standings better than others, but they have all given 150 per cent for Macdonald College. On all athletic teams someone stands out as a team leader and I can readily think of: Pat O'Brien, Paul McKinney, Gerald Post, John Riordon, Brent Wallace, Rudi Erfle, Peter Wilson, Marc Richard. Some of the girls include Elaine Sheppard, Sharon Anderson, Debbie Dohman, Cindy Murray, Martha Robinson, Mindy Poile, Joanne Driscoll. I repeat, they are all special!"

Bob Watson remembers Centennial Year with pride. "In 1967 we won all the marbles at Mac and U.N.B. The EXPO woodsmen were in Montreal and we were invited to go and watch them. Two students and I went in and the commentator told the crowd that some of Macdonald College's champion woodsmen were present. The boys challenged the EXPO crosscut saw champions to an event for fun and, of

course, the commentator announced on the air that we had made the challenge. They fixed us up with a saw and the boys won by 20 seconds with the crowds chanting 'Mac - Mac' all through the event."

"I could probably write a book about Woodsmen," Johnny said as he tried to recall a particular incident to tell from the many. "There have been some rather wild individuals in Woodsmen and some of the wildest memories come from the 1979-80 team of people like Pat O'Brien, Paul McKinney, Geoff Webber, Larry Slipp, Gerald Post, Rudi Erfle, Elaine Sheppard, and Martha Robinson. That was the team that had the glory of initiating the new coach. I'm lucky I made

it through alive, especially at Unity College. It was one nightmare after another, but I say no more! There was another team that enjoyed tormenting me: John Riordon, Reid MacDirmid, Brent Wallace, Francois Drolet, Randy Trumpler, Marc Richard — they always had something cooking. The last couple of years Brent Wallace has been a one-man wrecking crew. I think he became a piece of furniture in my living room, and, of course, the bus rides from each competition have been very memorable."

The job of coaching? Bob says, "Johnny and I coach pretty well the same way, although I suppose we vary on a few things. I don't think I was as tough as he is."

WOODSMEN ALUMNI:

During the 1986 Woodsmen Competitions Johnny Watson, coach of the team, told me that Gerald Post, BSc (Agr) '81, who was working as chief field judge, was a driving force behind the annual event. "It would be difficult to stage the event without his knowledge and organizing ability," Johnny said just before the competitions got underway that cold, — 15 Saturday morning. Gerald has been involved with Woodsmen since 1977 and has only missed coming back one year since he graduated. "The first couple of years after graduation I was field marshal, running around the field seeing that things were done properly," Gerald said. "Since then I've been in the van. The experience gained through 10 or 12 competitions helps a lot. You learn by observing what other schools do, how they set things up, and how they run a competition. It is important to have the schedule for the day done well in advance, and a through knowledge of the events means a great deal in organizing them. For instance, you don't want all the team events going on at the same time."

Gerald feels a strong commitment to Woodsmen and that is what brings him back. "It is a unique activity on the university scene. A lot of schools don't have it and this sets us apart from other colleges and universities. You can see or participate in a basketball game or a football game anywhere, but

Woodsmen is different. When I was here one of the most important things I learned was that it doesn't matter if you are the best as long as you finish. You don't quit no matter how bad it gets. That is part of the reason I keep coming back. I believe in it. I think being a Woodsmen teaches the students to work as a team. It builds character."

Woodsmen gets in your blood Gerry said as he watched the action heat up out on the field. "I would like to be out there participating." He enjoyed felling and said he did fairly well at it. "Chopping was something I always liked but could never do, and water boil was another favourite of mine even though I never won".

Gerald and his wife Yvonne, BSc (Agr) '82, met here at Macdonald and she, too, enjoys the trip back each year. After leaving the Nova Scotia Agricultural College she was here for two years and was a spare for the girls' team during her last term here. "Everyone gets together and works hard in competitions," she said, and you build up a spirit that makes you try your best in each event that you participate in."

Both Gerald and Yvonne think that Johnny is a really good coach and that he has done a lot for the team. "There is a lot of preparation," Yvonne pointed out. "Making sure that you have good and sharp equipment is important, and he certainly looks after

"When I started working at the Arboretum, Woodsmen were the last thing on my mind, Johnny recalls. "I had to learn an operation that I was to take over some day and I was also working on a correspondence course. When dad asked me to come out in 1978 and at least take a look, I didn't want the job. I was actually afraid of letting down the college by not keeping up dad's winning tradition. I took a chance and things have gone well, and the main reason I took a chance was because I honestly felt it was important for the students and for the college to have Woodsmen. Since I started as coach, everything is the same overall, although I have made some changes in conditioning. I stress callisthenics so that people are warmed

up before working with equipment. I concentrate on building upper body strength as most Woodsmen events require this. If I didn't like working with these people, I wouldn't coach. I've met many very interesting people through Woodsmen. It's a very satisfying experience. I've always felt that college is not just a place to strengthen academic skills; it's a place where people can build character and learn arts. It's very rewarding to see a group of 21 people work as a team. When you see the results, 6 a.m. doesn't even enter into it."

Johnny said that although other colleges and universities such as Sir Sanford Fleming, Unity College, N.S.A.C., and Maine have had competitions, those that everyone gears up for are

U.N.B. and Macdonald. "And," he pointed out, "the Woodsmen alumni are very important to the success of our competition. They act as judges, time keepers, field marshalls, and so on. Gerald and Yvonne Post, Norm Bourgon, Nancy MacLean, Martha Robinson, Ann Louise Carson, Barry Russell, Rudi Erfle, Danny Booth, Donald Garfat, Peter Wilson, and many others come out almost every year to support us."

The fact that alumni still get involved in the competitions has to be one of the reasons for the overwhelming success of the special celebrations last fall.

"It brought back a lot of memories to see some of my old Woodsmen," Bob said. "I was especially pleased to see Harry Younie up for the event. He was and still is a powerful man." Johnny agrees that it was successful. "We had a good turnout and the day went very smoothly. It was good for Dad and me to see all those people come back and have a fun day. We hope to have a 30th.

Support to for the competitions has come from the college, particularly the Athletics Department. Bob recalls that Bob Pugh was the first one in Athletics to help. "Bill Ellyett has done a lot for Woodsmen," Bob said, "scaring up money for equipment and travelling, giving advice and supporting and backing us. He's been a good and sincere friend of Woodsmen." Johnny agrees. "Bill and Don Moffat have been of great help. Dean Lloyd and now Dean Buckland have also shown encouragement and have given moral support, and Steve Olive and Eric Norris are always there to encourage us along." Johnny feels that the student body could be more supportive, considering that the teams are working hard for Macdonald. "Macdonald Woodsmen have always been a very tightly knit group. It's like a large family. We become close from working closely together. We work hard, compete hard, and play hard. I love them all and thank them for a great seven years," Johnny said in summing up his thoughts on Woodsmen.

"I loved being part of Mac Woodsmen," said Bob, "and enjoyed every minute of the competitions. I wish I was 25 years younger, but I have a son who took my place and I'm sure the Mac Woodsmen will compete and prosper under his coaching."

Part of the Team

that. Some of the teams don't have a coach and the fact that Mac has someone who has a lot of experience is a big plus."

Johnny as a coach? Super! Gerald said. "He may be in the background during these events but he's done all that has to be done beforehand. Businesses such as Terry Homelite where we get chain saws, and Gerants for handles, Domtar and others have all initially been contacted by him. He sets up the appointments and then members of the team do the leg work. It's his guidance that gets the team going. "Johnny and his father, Bob, are a lot the same. They are both good organizers. Bob had left the year before I got here, but I knew him when I was a member of the A.C. team. He wasn't quite as rambunctious or as rowdy with the team as Johnny is, but he's got a big heart. We must remember, too, that Johnny is much younger and therefore may have more rapport with the team. I was really glad to see Bob at the Woodsmen anniversary."

What did they think of the 25th anniversary reunion? "It was just great," said Gerald. A super idea. It was good to see a lot of people back from other years that shared a common interest. The events weren't too strenuous, and they were all done in fun. Quite a few of our old crew were back: Rudi Erfle, Danny Booth, who were both here when I was, Pete Wilson, Jim Currie, — Elaine Sheppard,

Harry van der Linden, Ann Louise Carson, Barry Russell. There were a lot of people that I have met but were not here when I was, people like Norm Bourgon and Jack Sadler that I have got to know through Woodsmen. When I started at A.C. there was a fellowship between Macdonald and A.C. They took us under their wing and looked out for us, and when we met at a competition in U.N.B. or Maine we usually stayed together and partied together. I consider many of these people good-friends. I thought Reunion was a great idea. We should have it every five years.

Yvonne was amazed at the number of people who came back. "We had a great time at the events in the morning," she recalled. "Everybody was out of shape and we almost died after each event, but it was a lot of fun.

Yvonne and Gerald Post married this past summer, and live in Berwick, Nova Scotia. After graduation Gerald was hired by Canada Packers in their Shur-Gain division and is a Sales Representative. "I sell livestock feed and do nutrition service work for farmers out of Truro. I was in New Brunswick for a little over two years, and I've been in Truro for about three years now. It's interesting work."

Yvonne is an Assistant Agricultural Representative with the Nova Scotia Department of Agriculture and Marketing and works out of Middle Musquodoboit.

Gold Key Recipients

Keep the Mac Spirit Alive

by Hazel M. Clarke

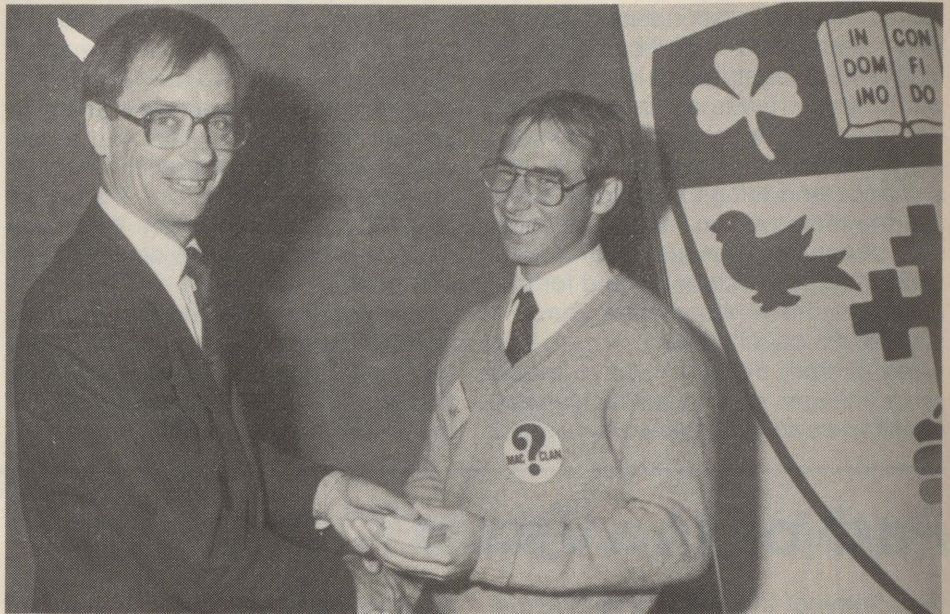
What is a beach party without sand? Two and one half tons of sand were about to be delivered to the Ceilidh, the student's bar in the Centennial Centre when, fortunately, someone in the firm telephoned to confirm the order. The CC Secretary Jean Brown's "What do you mean 2-1/2 tons?" brought that shipment to a halt — but not the beach party held during Carnival week last year. Once the error had been corrected, a sand box was built in one corner of the bar, 20 big bags of sand were used to fill it, a duck pond was set up, Labatt's loaned beach umbrellas, and Sealtest donated 10 gallons of ice cream — and the party was on.

For those graduates who worry about there being no Green and Gold Revue, no Oval, no piano in the common room, no Macdonald bands or orchestras, "let me assure you that the students have fun on this campus" and last year had to be one of the more social ones thanks largely to the Internal Vice President Velma Sutherland, who made the above comment when I talked with her just before the end of her final year at Macdonald. Velma, who majored in Food Science, just loves organizing a party, being with people, and having fun.

"Actually, it was six tons of sand," Marc Vezina, who is in his second year as President of the Students' Council, told me recently. "Velma planned to donate what she didn't need to Physical Plant. The party was great. Velma is a ball of energy and will dedicate herself to her responsibilities. She's incredible."

Velma Sutherland, Marc Vezina, and David Shutler, a post graduate student in Wildlife and post-grad rep on Students' Council, were last year's recipients of the Gold Key Award which is given by the Macdonald Branch of the McGill Graduates Society.

The Gold Key Award, which was reinstated in 1983 after a lapse of several years, is awarded to students for their contribution to the promotion of student participation in extra-curricular activities at Macdonald.



Dean Buckland congratulates Gold Key recipient Marc Vezina, President of the Students' Council.

Marc and David received their awards at Reunion last fall; Velma was unable to be present as she was travelling in Europe at the time.

During her years at Macdonald, Velma, who is from North Hatley in the Eastern Townships, worked on the student newspaper, was president of the Food Science Undergraduate Society, and then in her final year got involved, as Internal Vice-President, in special events at the Ceilidh, during Carnival Week, the Royal and Livestock Show, and so on. Velma's artistic ability was also put to good use with posters, pamphlets, buttons, and other decorations for the various events.

She also helped paint the CC. "Painting the CC was quite the weekend," Marc recalled. "I thought it would be nice to have a better colour in the building and I went to see a neighbour who is in the paint industry. His company had a project whereby non profit organizations could benefit from price reductions. We got about 45 students to come out over a Friday, Saturday, and Sunday, and we painted the CC. Mrs. Brown made chili and we had free beer. It entailed some long hours, but there was a great deal of satisfaction when it was all finished."

Marc, who comes from nearby Beaconsfield, attended the John Abbott

CEGEP and was attracted to Macdonald because of the beautiful campus and because it is small.

"I'm in Agricultural Economics," he said, "not because I'm an economist at heart, but because I was attracted by the amount of leeway the program gives me. I've been able to take courses in engineering, in food science, and in natural sciences, and these should all help me in my interests in international development and working in Third World countries. I hope to spend the next two years in Africa working with World University Service Canada (WUSC). I would very much like to work with my hands for awhile and then carry on to a Master's degree."

David Shutler, who is now working towards his Master's degree — studying birds that return to forest fire sites — is also from a nearby locality, Lasalle. He got his BSc in 1984, majoring in Environmental Biology. His extra curricular activities included being editor of the 1983-84 Graduate Booklet, which went out to some 900 food and agriculture companies, government offices, and other potential employers. He was also Secretary-Treasurer, then co-chairman of the Wildlife Society and worked on the Carnival Committee. Last year he took part in a football



Velma Sutherland, centre, with Anne Delmas, r, and Deana Hawley, at last year's successful Career Day which ended with a wine and cheese reception.



Graduate student David Shutler, r, receives his Gold Key pin from Dean Buckland at last year's Reunion luncheon.

game played in one of the heaviest snow storms of the winter. It was the revival of the Udder Bowl, thanks in large part to Marc Vezina.

"I was looking through our old trophy case and found the Udder Bowl Trophy and asked about it," Marc said. "When I was told of the tradition, I couldn't believe that it had just died. We revived it but changed it to students versus staff. In years past it had been dips versus aggies. It has really provided a good opportunity to mingle with staff members, and it provides us not only with blackmail material but also with very fond memories. We lost heartily last year, and we did so again this year. I think it is our duty to let the staff think they can win in such a way that let's us graduate!"

All three Gold Key recipients enjoyed the event. Dean Buckland coached the staff team this year; last year it was Dean Lloyd. "Dr. Lloyd is a great guy," Velma said. "Many people that I have talked with from other universities can't believe how approachable he is. We have had a lot of fun with him. He's down to earth and takes the time to stop and say 'hi' and in that kind of position you need someone like that. He's done an excellent job."

Velma is a keen sportswoman and during her time at Macdonald she coordinated badminton, helped out with volleyball, and taught tennis. "You have to learn how to organize your time between school work and extra-curricular activities. This year the

activities took more of my time but the studies still got done."

Marc Vezina pointed out that to his knowledge all other university presidents get an honorarium. The student takes a minimum course load and is considered a full-time student. There are no arrangements for that here but it would certainly provide for better organizing of events and other activities. The student would have to carry on for another year, on the other hand, and not all people are prepared to do that. Marc has found that being president is often a two-to-three hours a day job.

Each of the three Gold Key recipients has a great sense of humour; David Shutler's, however, has to top the list.

"I started at Mac a stranger in a weird land," David recalled, "and my first instinct was to go to every party (and I mean every party) to get to know people. I made several friends, some of whom suggested my energies might be better allocated between partying and getting involved in student activities. So I cut back on partying, became Secretary-Treasurer of the Wildlife Society, began writing "Bucko's Pot Pourri" for *the Harvest*, and played volleyball for "les Grenouilles." The more I got involved, the more people asked me to do, and the more I saw that needed doing. Getting involved is often a result of not being able to say 'no,' but I'm learning. In the meantime I've lost track of my education. At any rate, getting involved has paid off. At the Reunion, I got a free lunch, a neat little pin, and the honour of sharing the spotlight with Marc and Velma. By the way, they are two great people whom I like a great deal and, yes, even respect."

This year David took time from his studies to organize the 1986 Northeast Graduate Wildlife Conference which Macdonald hosted in February with participants coming from universities in both Canada and the United States.

"David deserved the Gold Key Award for past achievements, and he did an excellent job organizing that conference this year," Marc said. "And his peers recognize that the beauty about Dave is not just his looks; it is the way he can bring humour to situations and really provide the drive to carry on. Council meetings are never tedious with him around."

(Continued on page 41)

HEAD EAST THIS SUMMER!

Two letters from graduates have been received with information and invitations for Journal readers. We're pleased to share them with you. The first is from Ruth Ann Waddy, BSc (FSc) '73; the second is from Stephen Casselman, BSc (Agr) '69.

Holstein Association of Canada Convention '86

A special invitation is extended to Journal readers belonging to the Holstein fraternity to attend the Holstein Convention at the Hotel Beausejour in Moncton, N.B., beginning on Monday, July 21. Come and experience some Maritime sights, fun, food, and hospitality. Before I give you some of the details of Convention, I would like to point out that several Mac grads are involved in the first Holstein Canada Convention to be held in the Atlantic provinces.

On the steering committee are **Jean Ward**, BSc (Agr) '63 and my husband **Fred**, BSc (Agr) '73. Jean and her husband **Russell**, BSc (Agr) '63, farm at Granville Ferry, Nova Scotia. Jean is the Nova Scotia Director with the Holstein Association of Canada, the first woman in Canada to assume this position. There are 20 Directors, including current President of the Holstein Association, Earl Osborne from Rockwood, Ontario.

Fred and I are farming in the Salisbury area, west of Moncton, N.B. We have a purebred Holstein herd, milking 110 cows. We have an extensive embryo transfer program, using the services of **Dr. Ken Bedirian**, Rockwood, Ont., who studied under Dr. Baker at Mac in the early '70s. Our farm is a bicentennial farm, being in the hands of the descendants of the original settlers on a continual basis since 1783.

The Co-ordinator is **Bruce Trenholm**, BSc (Agr) '47, who is a past president of the Holstein Association of Canada. He farmed in Nova Scotia for a number of years, then worked with the N.S. Department of Agriculture.

Various committee heads include **Joy Howe**, Youth Program. Joy and her husband **Don**, BSc (Agr) '69 operate Boreview Farms Ltd., near Riverview, N.B.



Fred and Ruth Ann Waddy at the 1984 annual dinner of the McGill Society of New Brunswick. Ruth Ann was president at the time.

David Saunders, Dip '76, Lobster Supper and Entertainment. David is the past president of the New Brunswick Holstein Association. He farms at Petitcodiac, N.B., raising both Holstein cattle and sheep.

Franklin Johnson, BSc (Agr) '52, Liaison N.B. government. Franklin works with the N.B. Department of Agriculture and lives in Fredericton.

Allan Saunders, BSc (Agr) '47, Local Tours and Transportation. Allan is a Dairy Specialist with the N.B. Department of Agriculture.

Phillip Stead, BSc (Agr) '57, Tours, N.S. Phillip works with the Nova Scotia Department of Agriculture.

As well, Holstein Rep **Tim McCarthy**, BSc (Agr) '82, also attends our meetings and, along with Thomas and Gladys Albert, I am looking after Hospitality.

This brief summary of Mac grads on the Convention Committee is not meant to overlook, in any way, other committee members who are working very hard to organize the planned events.

Visitors driving to the Convention in Moncton will be encouraged to visit designated Holstein farms in the area between the Quebec-New-Brunswick border and Fredericton. Information about this will come from the Convention Committee. The idea is to allow some time away from the traffic on the Trans Canada Highway, and see some

farming country. Registration will start Monday evening and continue Tuesday at the Hotel Beausejour.

On Tuesday, July 22, guided tours of some farms within the Moncton region will be held. In the evening there will be the president's wine and cheese reception followed by an opportunity to watch harness racing at Champlain raceway in nearby Dieppe, where one race on the evening program will be the "Holstein Canada Pace."

On Wednesday events will be held at a very scenic New Brunswick community — Ste. Marie de Kent, north of Moncton. The fairgrounds here are the site of the annual Kent County Exhibition held in August. On July 23, we will have the buildings and grounds in use for the events of that day — a Holstein cattle show, followed by an audio-visual sale, a lobster supper, and entertainment. It promises to be a fun day.

On Thursday, July 24, the Holstein Association of Canada annual meeting will be held and a ladies and youth program will also take place. In the evening there will be a banquet and dance.

On Friday, July 25, tours will leave for Prince Edward Island and Nova Scotia with stops at farms and other points of interest. It was felt that many visitors to the convention might want to see other parts of the Maritimes and a mini tour such as this is a good

opportunity when time is limited.

Going back to discussing Mac grads, it may interest you to know that the First Vice President of the McGill Society of New Brunswick is **Sylvia Saunders**, BSc (HEC) '47, (wife of Allan Saunders mentioned above). Sylvia is a Home Economics teacher in Moncton and resides in Petitcodiac. She will be responsible for organizing the 1987 dinner meeting to be held in the Moncton area. On her behalf, I encourage Mac grads in the province to attend this event. I say this because I found during my term as president of the McGill Society of New Brunswick, which ended in 1984, that, as in past years, there was little participation by Mac grads, although there are a number in the province. The 1986 dinner meeting will be held in Fredericton sometime during the fall.

Fred and I are on our class executive and thus attend reunions at Mac every five years, the last being in 1983. I have been a subscriber to the Journal for a few years and enjoy each issue, especially articles about people we knew well during our student days. It amazes me how well dispersed Mac grads are in Canada and around the world.

Ruth Ann Waddy
Salisbury, N.B.

Toronto Blue Jays Invited To Reunion in Truro!

For the first time a Reunion of Macdonald College graduates will be held in the Maritimes. The event is being tried by the Agriculture and Food Science Class of '68. At the last Reunion of the class, in '83, the request was made by the Maritime contingent, and the response to this request was so immediate and spectacular that instead of waiting until 1988, the Class executive has decided to hold, in an off year, an extra Reunion. Many of the 77 people who attended the last Reunion at Macdonald College thought it would be a super idea to combine Reunion with holidays in the Maritimes this coming summer. The Maritimers, who will hold their 20th Reunion from N.S.A.C. this July in Truro, have invited the entire 1968 graduating class of Macdonald College to share in their festivities.



Stephen Casselman

The event takes place July 25 and 26 on the campus of the Nova Scotia Agricultural College in Truro. **Dr. Herb MacRae**, Principal of N.S.A.C. welcomed the idea when visited by **Dr. Harold Cook** and me just prior to Christmas. Dr. MacRae can hardly wait to show off the college during "Open House" July 26. An invitation has also been extended to the Toronto Blue Jays to attend the Reunion in Truro. When the Journal went to press, an answer had not as yet been received (Ed.'s note: Why the Blue Jays, Steve?)

For those who have not seen the old school in 10 or even 20 years, they will not recognize the place. Most facilities of higher learning across Canada are crying for funds to maintain their present physical plants but not N.S.A.C. Somehow, somewhere, Dr. MacRae has accumulated millions of dollars to expand the college. A sports complex, a new library, the Cox Institute, and an extension on that building, two new residences, and now another building is being constructed behind the main building. It should be completed by this summer for all to see and admire.

The Reunion starts at 8:00 p.m. Friday in the Charles Douglas Room in Cummings Hall which is the main administrative building. This is a time for meeting old friends. On Saturday tours and displays during the morning will be followed by the luncheon barbecue, the annual meeting and, of course, the Alumni dinner in the evening. The tremendous success of the hotel suite at our last Reunion has initiated a repeat performance. Arrangements have been made for a

three-room suite at the Glengarry Hotel in Truro where food and drink will be readily available from about 3:30 in the afternoon Saturday until the wee hours Sunday morning. This will be a final chance to catch up on four years of memories and almost 20 years of what has happened since those memories. . . . Unfortunately, there never is enough time, but then we shall be together again in Ste. Anne de Bellevue in '88.

Naturally, Dr. MacRae has promised us a superb dinner Saturday evening at the college. Perhaps **Dr. Roger Buckland**, Macdonald's new Dean, will lend us an ear and provide an even better meal in 1988. While I'm on the subject, if Macdonald College's Registrar, **Steve Olive**, is listening — "Stay out of the kitchen!" Steve was in charge of the Macdonald kitchen at our five year Reunion and even though he is a member of the Class of '68, there obviously was no favouritism displayed by him.

The real nice touch to the Reunion in the Maritimes is that it will be a family affair. **Robin Robinson** has promised to take my sons trout fishing. If he is too busy in the Chemistry Department at N.S.A.C., his wife **Diane (Davidson) Robinson** says she will take over for him so that he can be freed up. Dr. MacRae says the place to stay while visiting is in the residence at the college. He says the price cannot be beaten and you will be within walking distance of whatever you want to visit. I've told my boys that they may have to baby sit while us older folk take in the evening's festivities. Robin and Diane have agreed to be the liaison between the college and our class. They will be receiving help from **John Tait** who is Chairman of the Department of Economics at the college.

For those other graduates of Macdonald College who would like to drop by and say hello while we are in Truro, please feel free to do so. I'm sure **Peter Hamilton**, N.S.A.C.'s Registrar, and Dr. MacRae will be pleased to have you participate in their "Open House." One thing is sure — we are going to have a real swell time, and I'm sure the Maritimers who take part will join us at the Macdonald Reunion in 1988.

Stephen Casselman,
Agincourt, Ont.



The Canada-Egypt-McGill Agricultural Response Program

by **Dr. Norman C. Lawson**
McGill Coordinator, CEMARP

In mid-March External Relations Minister, Monique Vézina visited McGill University for the official signing of a \$5 million agreement with the Canadian International Development Agency (CIDA). Principal David L. Johnston signed on behalf of McGill University, which was selected to be the Canadian Executing Agent for this Program. This Agricultural Response Program will be staffed by members of the Faculty of Agriculture from Macdonald College.

CIDA's program in Egypt is concentrated on the sectors of agriculture, energy, and human resource development, the objectives being to improve self-reliance in food production, increase the availability of energy, and ease the human resource constraints that are hindering economic develop-

ment. Egypt was a net exporter of food until the 1960s. However, Egypt now faces food import bills of U.S. \$4 billion per year (more than U.S. \$10 million per day) with nearly 60 per cent of the food required by its 45 million people brought in from outside. The current birthrate is very high. One million additional mouths are being counted every 10 months.

The Agricultural Response Program is an attempt to provide equipment and services for small and medium-size agricultural projects to overcome bottlenecks in increasing food production. The planning for the Program goes back four years to February 1982. We heard about it at McGill in the early winter of 1985-86 and rapidly reorganized to meet this interesting new challenge. The professional staffing was arranged at Christmas 1985 and the two-person McGill team was in Cairo at the end of February 1986. Dr.

Mohammed A. Faris is the Coordinator in Egypt for the next two years on a full-time basis while Dr. Norman C. Lawson will be the McGill Coordinator of the Program. The former was a graduate student supervised by the latter 19 years ago. This long professional and social relationship should help communication at the management level.

When the team arrived in Cairo the city was largely blacked out, there was a 12-hour dusk to dawn curfew, and military road blocks and check points were very much in evidence. However, all was calm. There had been a mutiny of the Central Security Police, but they had been subdued rapidly. The fragile nature of peace and stability in the Middle East is very apparent.

We spent the next three weeks meeting people and visiting places. We were accompanied by Ms. Donna Cochran who is the Project Officer for



Photo, opposite page: On hand for the official signing of the \$5 million agreement were, l to r, Dr. Eugene Donefer, Director, McGill International, Monique Vézina, External Relations Minister, David L. Johnston, Principal, and Dr. Roger Buckland, Vice Principal, Macdonald College. Above: the McGill team at the Canadian Embassy in Egypt, l to r, Ms Donna Cochran, CIDA, Dr. Norman Lawson, McGill, His Excellency Marc Perron, Canadian Ambassador to Egypt, Dr. Mohammed Faris, McGill, Mr. Michel Archambault, Canadian Embassy, and Ms Nadia Riad, Canadian Embassy.

the Egypt Program in the Anglophone Africa Branch of CIDA. We were officially welcomed by the Canadian Ambassador, Mr. Marc Perron, and his staff involved in Development Assistance. Discussions were held with officials of the International Development Research Centre (IDRC),

the U.S. Agency for International Development (USAID) and the Egyptian Ministry of Agriculture and Food Security. We visited a number of Institutes of the Agricultural Research Centre and a number of Field Research Stations in the Delta and in the reclaimed desert areas. Our objec-

tive was to assess some of the constraints in the food production systems and to identify the *modus operandi* for Dr. Faris, e.g., Egyptian counterpart, office space, office staff, International Banking arrangements and living and schooling facilities for the Faris family.

Egypt is 97 per cent desert. The Nile valley and Delta contains 99 per cent of the population. The population density is very high and a Canadian used to the wide-open spaces is stunned by the noise, dust, and crowds. Cities like Cairo and Alexandria have dawn to dusk traffic jams. City populations have quadrupled in the last quarter century and the infrastructure to carry this density of population is extremely over-stressed.

Dr. Faris and his wife and youngest son are planning to move to Cairo for two years in May 1986. The Canada-Egypt-McGill Agricultural Response Program (CEMARP) should be operational shortly thereafter.

Requests for small and medium size projects will be evaluated and wherever possible the human resources of the Faculty of Agriculture will be mobilized for technical and managerial training and technology transfer. Linkages will be created that in a small way may help to preserve peace in the Middle East by improving the quality of life for the population of the Arab Republic of Egypt.

(Continued from page 15)

This Macdonald team went on to become the core of the Ste. Anne de Bellevue team of the early 80s. Several players did exceptionally well. Serge Blondeau ('77), now general manager of CIDE, the CEGEP consortium selling educational services abroad, represented eastern Canada against England and Italy. Vince de Grandpre (Dip, Class of '73)), manager of the Glenfinnan rink, played several seasons for Quebec. Malcolm Churches ('82), who is finishing a Master's degree in Agricultural Economics, has made many appearances for Quebec. Even Martin Silverstone ('77), contrary to all expectations, has played for his province.

And who is Martin Silverstone?

Martin, now a biologist/researcher with the Royal Commission into the Seal Hunt, was the main mover and organizer of the tour. He did the fund-raising and assembled his band of Mac



Bill O'Neil, MSc '84, past president of the club, receives a red dragon from Graham Hughes, chairman of the Cwmbran R.F.C., Wales, January 1986. Rick Baxter is in the background.

rugby grads to manage the venture. Greg Dowling (Dip. '84) was back from Kingston, Ontario, and Steve Hinks left his business in Saskatoon to team up with old college friends. It was quite a homecoming!

Martin, it might be noted, also fundraises for Jim Bergeron's Guiding Eyes organization. Jim ('74) was a Mac rugby player when he lost his sight. His brilliantly funny memories of his Mac Rugby career were superb entertainment at the 1985 Ste. Anne de Bellevue RFC dinner.

Steve Broughton was the only current Mac student on the tour, but the two coaches more than compensated for his youth and innocence. Keith Wilkinson and I have been coaching Macdonald College teams and players for the last 15 years.

As for the tour itself, the results and minor matters like that. Well, that's another story which I will be glad to exaggerate for you, another time.

Founder's Day Tribute

by Mitzi Steinberg Dobrin

Permit me to say, first of all, how deeply I appreciate the honour of having been invited to address this Founder's Day gathering which once again, this year, pays tribute to the memory of Sir William Macdonald.

I have long been conscious of a double indebtedness to this seat of learning — at first as a schoolgirl, aware that the teachers who guided my elementary-school education had received their training in that exceptional institution which was known to us as "Mac." Not a few of us in the public schools were inspired to emulate them one day and the attractiveness of Macdonald College's School for Teachers was not diminished by the fact that it was, like Shangri-La, situated in that faraway place over the mountain, in the land of the setting sun, where we would be a whole day's journey away, to the west of our native habitat.

Many years later, having gathered from my father how important the produce of the farm was to his growing enterprise, it registered with me that Macdonald College was also an agricultural school and, as such, the generator of guidance and knowledge in that field of growth.

So I am doubly appreciative of this place as an extension of the University from which I obtained my own degrees — that over-arching McGill which in so many ways, and to so great an extent, owes its flowering to the benefactions and the interest of Sir William. He was, as I learned from his biographer, a man of many deeds and relatively few words, and it behooves anyone who evokes his memory to avoid long-winded orations, especially in recalling his significance to the college that bears his name. In this regard, what comes to mind is the apocryphal story about the learned gentleman who was the Commencement Day speaker one year at Yale.

"I shall be brief" he began, encouragingly, and then proceeded to expound on his theme which took its inspiration from the four letters which spelled out the name of that great university.

"Yale," he said "begins with the 'Y'



Head table guests at Founder's Day, February 11, 1986, included, l to r, Marc Vézina, Principal Johnston, Mitzi Dobin, Mrs. David Stewart, and Vice Principal Buckland. Photo by Charles Fournier.

that stands for Youth," and he elaborated on that subject for about 15 minutes. He then proclaimed that "A" represented "Ambition," and devoted some 20 minutes to that lofty attribute. At length he reached "L" which, he declared, signified "Loyalty," a concept which occupied his attention for another 18 minutes; and scarcely out of breath, he at last reached "E" — for "Energy" — on which he lavished the concluding half-hour of his oratory.

Having at last ended, he retired to his seat on the platform and noticing the President of Yale deeply immersed in prayer, he turned to him and asked what had so profoundly moved him.

"I was just giving thanks" came the response, "that this is Yale and not Macdonald College!"

Friends, when we consider what Macdonald College stands for, we must look beyond the fine buildings, the broad sweep of land on which it stands, and the excellent amenities with which it was endowed by the generosity of a wealthy man who conceived it all for the benefit of the generations that would follow his own lifetime.

What I think we might ponder on Founder's Day is the exceptional character of the man himself, frugal in his personal life to the point of asceticism, and innocent of any pretention, exacting and meticulous in his

demands on those who worked with him, intolerant of frivolity and, as we know to our great satisfaction, boundlessly generous, farseeing, kind and devoted to the young in whose education and development he saw the future of his country.

Sir William was a man whose life was governed by what we, in this generation, have come to call "the work ethic." Let those who equate that term with a denial of the pleasures of life look about them here. Let those who distort the meaning of industry, who consider it coterminous with greed and exploitation, consider what great heartedness it manifests in the context of this institution. Let those who recoil in horror from the word "profit" ask themselves what it was that acquired this expanse of land, what paid for these buildings, what endowed the professorships, what created this seat of learning.

That industry and profit should have made it all possible tends to be overlooked in our own day, and, in consequence, our nation is in danger of losing the vision which brought our fundamental freedoms into being. This danger resonates in the call for more and more governmental intervention in all our affairs, for subsidies and hand-outs that, in the end, undermine our will to achieve and even calls for more and more regulation of the way we

conduct our affairs.

Timid people who have no confidence in the processes of democracy and education are ready to abandon the fundamental ideas on which this country grew and flourished — notably that the fundamental function of freedom is to protect and exalt the individual as the surest way to strengthen society as a whole.

We foster freedom not for its own sake alone but in order to avoid error and discover truth. We encourage dissent because we have come to understand that when dissent is silenced, we invite disaster, leaving ourselves passive and acquiescent to the dictates of Big Brother.

Those who seek shortcuts to security through the homogenization of

society argue that the end justifies the means. But when government embraces their agenda, it radiates approval of a doctrine so odious that it must, in the end, destroy the whole fabric of our society.

Enlightened self-interest — that outlook which we discern in the life of Sir William Macdonald — does not disregard the responsibility of those who have to those who are in need. Father Theodore Hesburgh, that noted educator whom no one would accuse of advocating socialism, has spoken to the urgency of addressing what he calls our "systemic geographical discrimination," that global inequity we accept with indifference each day. He condemns the moral obscenity of a world which produces sufficient food

and energy to provide for all of God's children, yet leaves so many to languish in hunger and backwardness.

If you happen to be a Canadian, you can look forward to a lengthening life span, increasingly better health, education and economic well-being. If, on the other hand, you chance to have been born in Africa or Asia, your life will be short, menaced by sickness and malnutrition, limited by illiteracy, and doomed to hopelessness.

Here we confront the menace of a market glutted with Ph.D.'s, but in other parts of the world, children all too often never set foot in a schoolroom.

Macdonald College, the creation of that rugged individualist whose high idealism we commemorate today, is one of the instrumentalities through which we mobilize our community's extensive scholarship and direct it toward the analysis and solution of contemporary problems in the light of our ethical tradition.

Through the work and teaching that are the aim and purpose of this institution, we help to rouse the conscience and the consciousness of the world, knowing that if we fail to be heard, the vacuum created by our silence will be filled by voices that do not echo our visions and do not share our dreams.

What Sir William Macdonald bequeathed to us is therefore the challenge of employing this school as an instrument — one that in changing our world will also assure the security we have obtained for ourselves within it. He taught us that true wealth is created by imaginative men and women who have the freedom to acquire property and the insight to appreciate the latent value within it. It is the economic imagination — something that is entirely beyond the calculations of economists — that turns natural objects into natural resources.

It was Henry Ford who created the oil wealth of Arabia. It was the men and women of Silicon Valley that saw new worlds in a grain of sand. And it was Sir William Macdonald who, so many years ago, perceived the significance of these acres of land to the future of this country and, indeed, of the world, and built here a beacon which still lights the way ahead, 69 years after he left us.

Yes, ladies and gentlemen, we salute his memory.

MITZI STEINBERG DOBRIN

Mitzi Steinberg Dobrin, a Director of Steinberg Inc., was born in Montreal, Quebec, and is a graduate of McGill University where she successively obtained degrees in the Liberal Arts and in Law.

In 1974, at the request of her father, the late Sam Steinberg, then Chairman of the Board and Chief Executive Officer of Steinberg Inc., Mitzi Dobrin joined the Miracle Mart Division and began her career at store level. Shortly after, she assumed the general management of the Division, as its Vice-President, and was elected to the Company's Board of Directors. In 1978 she was appointed Group Vice-President and a member of the Executive Committee of the Board of Directors. Mitzi Dobrin assumed the position of Executive Vice-President, Legal & Corporate Affairs, in February, 1983, with overall responsibility for all legal and corporate secretarial matters pertaining to Steinberg Inc. and its subsidiaries, as well as for public and governmental relations, labour relations and linguistic services. In September, 1985, Mitzi withdrew from line duties to assume the management of the family holding company.

A member of the Bar of the Province of Quebec, Mitzi Dobrin is also a member of the Boards of the Royal Bank of Canada, the Concordia Centre for

Management Studies and the Graduate Society of McGill University. She is both a director and member of the Executive Committee of the Retail Council of Canada, as well as being a member of the Board of Governors of the Chamber of Commerce of Quebec and of the Junior Achievement of Quebec; a member of the "Quebec Foundation for the Development of Science and Technology," of the Advisory Council of the School of Business of Queen's University and a former member of the Economic Council of Canada, of the "Conseil de la planification et du développement du Québec" and of the Joint Committee for the Economic Promotion of Montreal of the Chamber of Commerce of Montreal and the Board of Trade of Montreal (COPEM). In addition, she actively supports many social and charitable organizations such as the Combined Jewish Appeal, the Israel Bond Drive, the Arthritis Society, Quebec Division, and the Quebec Association for Children with Learning Disabilities.

Mitzi Steinberg Dobrin is married to Melvyn A. Dobrin, Chairman of the Board of Steinberg Inc. The Dobrins have three children, two sons and a daughter, and two grandchildren. They share a very keen interest and knowledge of art, particularly Canadian paintings.

Covering Up for Earlier Harvests

by John Argall and Katrine Stewart
Department of Plant Science

Any vegetable gardener in Quebec can appreciate wanting to grow earlier vegetables. Supplying the family needs for high quality vegetables, in addition to earning the "bragging rights" of the neighbourhood, are commendable goals indeed. For commercial vegetable growers in the province, early vegetables spell economic sense in terms of the prices received and the buyer contacts established early in the season.

While crop yields are always very important, early maturity can be of even greater importance in the economics of vegetable production for the fresh market. In Quebec there is a great potential for such vegetables early in the season. While this is true for most vegetables, the situation is particularly obvious in the case of the warm-season vegetable species of the Cucurbitaceae (cucumbers, melons, and squashes) and Solanaceae (tomatoes, peppers, and eggplants) families. In most years, early peppers and cucumbers, for example, command premium prices on the Montreal market until mid and early August, respectively. As a case in point, Figure 1 shows the average weekly wholesale prices for these crops at the Central Market of Montreal for the summer of 1984. It is evident that early cropping is advantageous to the grower. In addition, however, our reliance on imported goods during the whole growing season for these crops also implies that room exists for considerable expansion, even during some peak months (Table 1).

The greatest limiting factor to early crop production and higher yields of the warm-season vegetable crops in Quebec is the unfavourable climatic conditions which prevail early in the growing season. For the past decade or so, the Horticulture Research Staff at Macdonald College has been looking into ways to circumvent such early season limitations by using vigorous transplants, pregerminated seeds, and windbreaks. When researchers here began investigating the potential of agricultural plastics as field growing aids in the early 70s, such techniques



Tunnels can be installed with modified mulch-laying machinery.



Spunbonded fabric row covers can provide early season shelter for both direct-seeded and transplanted vegetable crops.

were not thought to be in use in Quebec. Indeed, it is only in the past five years or so that they have been used to a significant extent in the province. Over the past three years, their use has more than tripled, with Quebec growers having adopted the technique of "plasticulture" on a surface area of more than 200 hectares in 1985.

Many strategies are used by growers to obtain earlier crops. Sandier soils, which heat up more quickly in the spring, are ideal soils for early vegetable crops. Similarly, fields which are sloped slightly toward the south are also effective in this regard. The use of vigorous transplants of

early cultivars in fertile, irrigated soils are other practices which help in obtaining early crops. The most recent boost to earliness, however, has been the use of mulches and covers.

As a means of obtaining earlier and increased crop yields, three categories of synthetic or plastic films and covers are commonly used. Mulch is a plastic film, be it clear or black, which is applied directly to the soil before or during planting and which may be kept on the soil for one to several seasons, depending on its nature and purpose. The mini-tunnel, constructed of a sheet of white or clear plastic, with perforations or slits, is applied on pre-installed

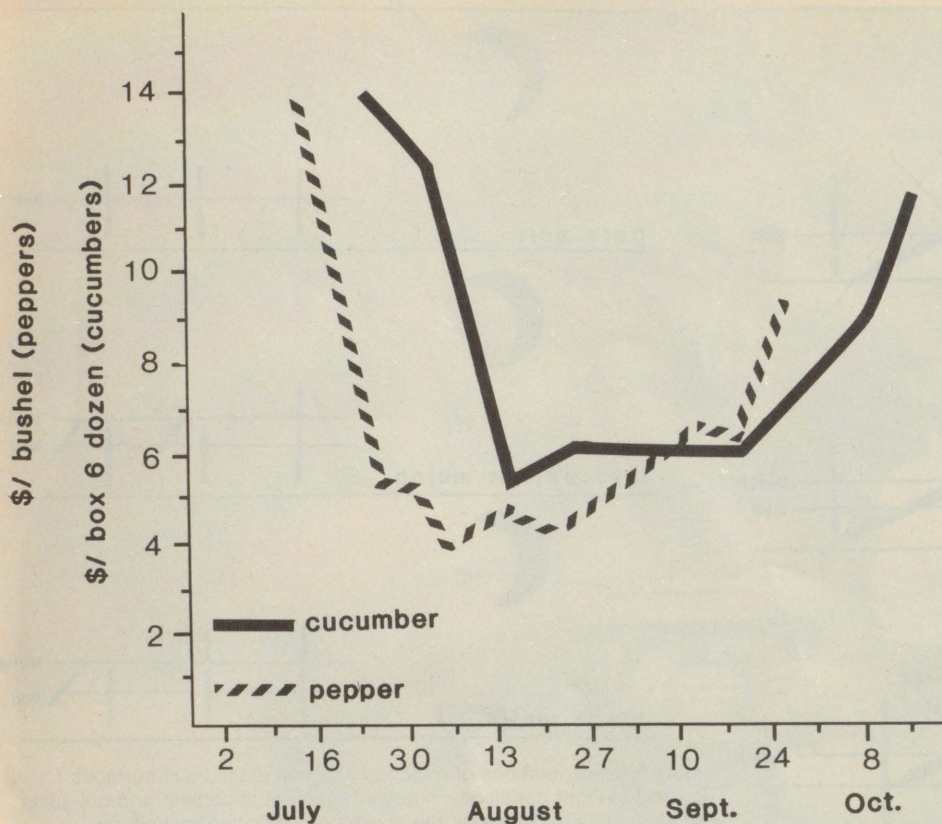


Figure 1. Wholesale prices for fresh produce at the Central Market of Montreal (1984).

wire hoops to form a "mini-greenhouse" which is retained for several weeks, depending on the season. The row cover is similar to the mini-tunnel except that it is not supported by wire hoops, but rather moves up with the growing plants. The materials used for the two covers are either polyethylene, spunbonded polyester or spunbonded polypropylene. All of the components of this fairly new technology have a proven track record

in increasing early yields, either alone or in combination, from approximately 25 years of use in Europe, Asia and, more recently, North America. Like most technologies, however, a good response requires proper use.

Plastic Mulches

When properly used, mulches can favourably influence the plant environment in a number of ways which result

in increased crop yields. Not surprisingly, they exert their greatest influence on the soil environment. Plastic mulches increase soil temperatures by capturing solar radiation during the day and by reducing heat evaporative losses at night. In the case of a clear plastic mulch, the heat gain is substantial, because a large part of the sun's "warming" rays are transmitted directly to the soil. In the case of a black plastic mulch, much of this heat is absorbed by the mulch itself and the soil warms up more slowly (Figure 2).

Weed control is ensured by use of a black plastic mulch, which inhibits light penetration. Use of a clear plastic mulch requires that an effective herbicide be applied prior to mulch-laying; however, since weed growth is strongly favoured by the "mini-greenhouse" created by this mulch, this limits its use to those warm-season vegetables for which herbicides with long residual effects exist (sweet corn, for example).

Plastic mulches also play a role in the moderation of soil moisture, which is maintained more uniformly by reductions in evaporation. Their use also results in a reduction of soil compaction and water erosion, thereby causing soil structure to remain more favourable to root growth. Other ways in which mulches favourably influence the plant environment is by reducing nutrient leaching, by encouraging microbial activity, and by maintaining a barrier between the soil and the fruit.

It is all of these factors which combine to favourably affect the yields of vegetables. In order to achieve this effect, however, plastic mulches must be used properly. To profit from the soil-warming and moisture-retaining properties of the mulch, these plastic films must be laid on well-prepared, moist soils, preferably several days before planting, in order to allow for more heat accumulation.

Table 1. Fresh vegetables unloaded at Montreal Market (in '000 lbs.) for 1983

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUCUMBER												
Quebec	—	—	—	—	—	17	401	2314	1689	357	—	—
Imports	1375	999	1219	837	1772	2237	2099	78	201	996	2247	1620
% Quebec	0	0	0	0	0	.07	16	97	89	26	0	0
PEPPER												
Quebec	—	—	—	—	—	—	10	430	1142	361	22	—
Imports	2611	1879	2100	1993	2127	2827	2980	2306	2260	1509	2944	1630
% Quebec	0	0	0	0	0	0	.03	16	34	19	.07	0

(from Agriculture Canada, 1984)

Table 2. Maximum air temperatures (°C) attained 13 cm above the soil level for various mulch/tunnel treatments during a warm clear day in early June (Macdonald College Horticulture Research Centre, 1985)

Treatment	Maximum air temperature (°C)
Bare soil	27
Bare soil/tunnel	40
Black mulch	30
Black mulch/tunnel	45
Black mulch/polyester row cover	40

Mini-Tunnels and Row Covers

The idea of covering plants early in the season is not new. From the 16th century through to the present, European horticulturists have employed various growing systems, including cloches, bell jars, cold frames, hotbeds, and greenhouses. All of these systems are based on the principle of "greenhouse effect," that is, the trans-

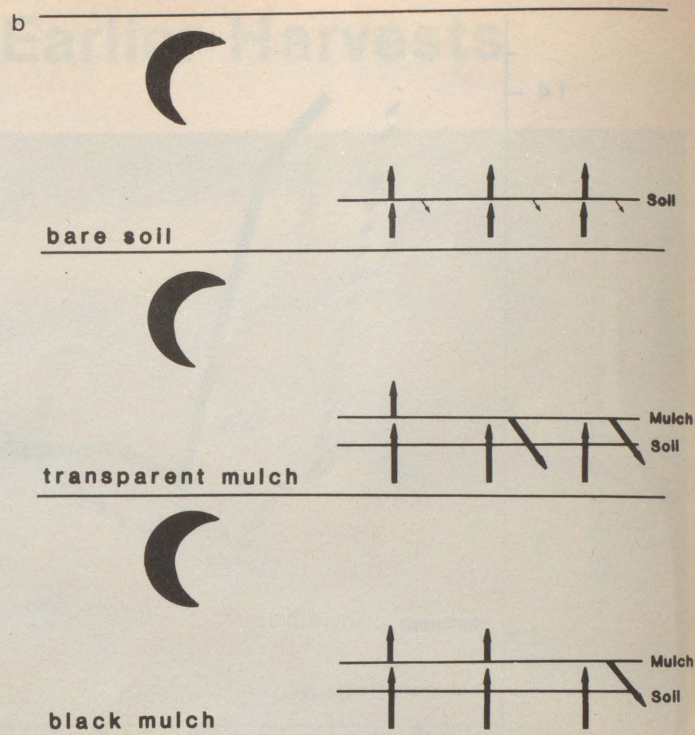
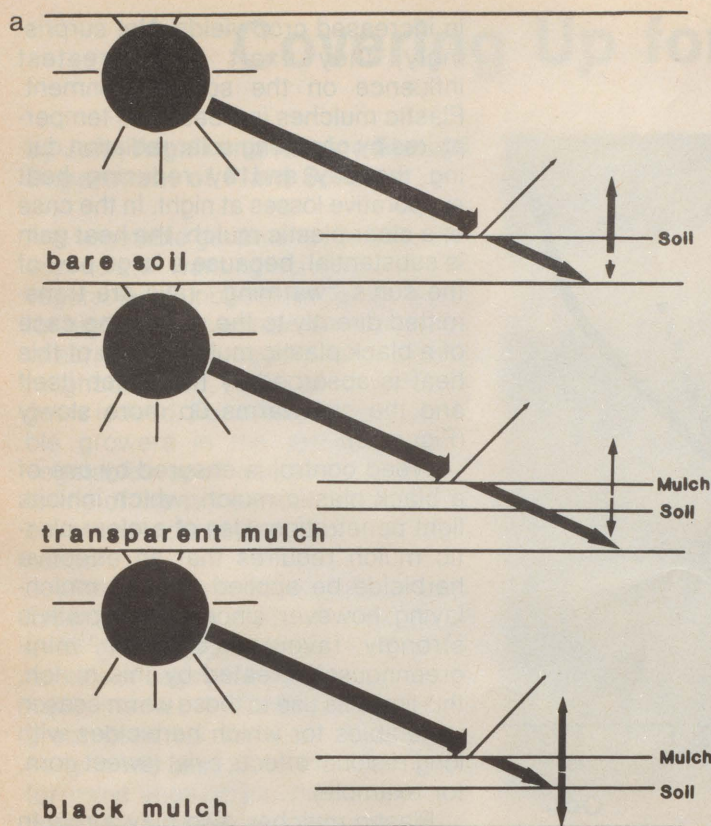


Figure 2. Heat relations of mulched and unmulched soil surfaces for a) day and b) night conditions. Arrows represent in-coming and out-going radiation, with thickness of the arrows representing magnitude.

mission of solar radiation through to the plant environment, with reductions in heat loss once it is "trapped" in the form of thermal radiation.

Neither tunnels nor row covers should be expected to give much more frost protection than 2°C at night. Rather, they should be seen as a shelter for young plants. Their greatest effect by far is on ambient daytime temperatures. When a clear polyethylene tunnel is laid over a bare soil, it heats both the soil and the air and can be one of the most effective methods of frost control as well. When such a tunnel is laid over a black plastic mulch, weed control is also effected and soil moisture is better retained. The temperatures attained by this mulch/tunnel combination on a warm clear day can be excessive, however. Use of such a combination should be restricted to heat-loving crops such as the cucurbits (melons, squash, and cucumbers). The temperatures obtained by such treatments (Table 2) can easily be detrimental to even the warm-season solanaceous crops (peppers, tomatoes, eggplants), particularly during flowering and after transplanting. Light-reflecting white polyethylene tunnels and floating covers are probably better suited to these crops.

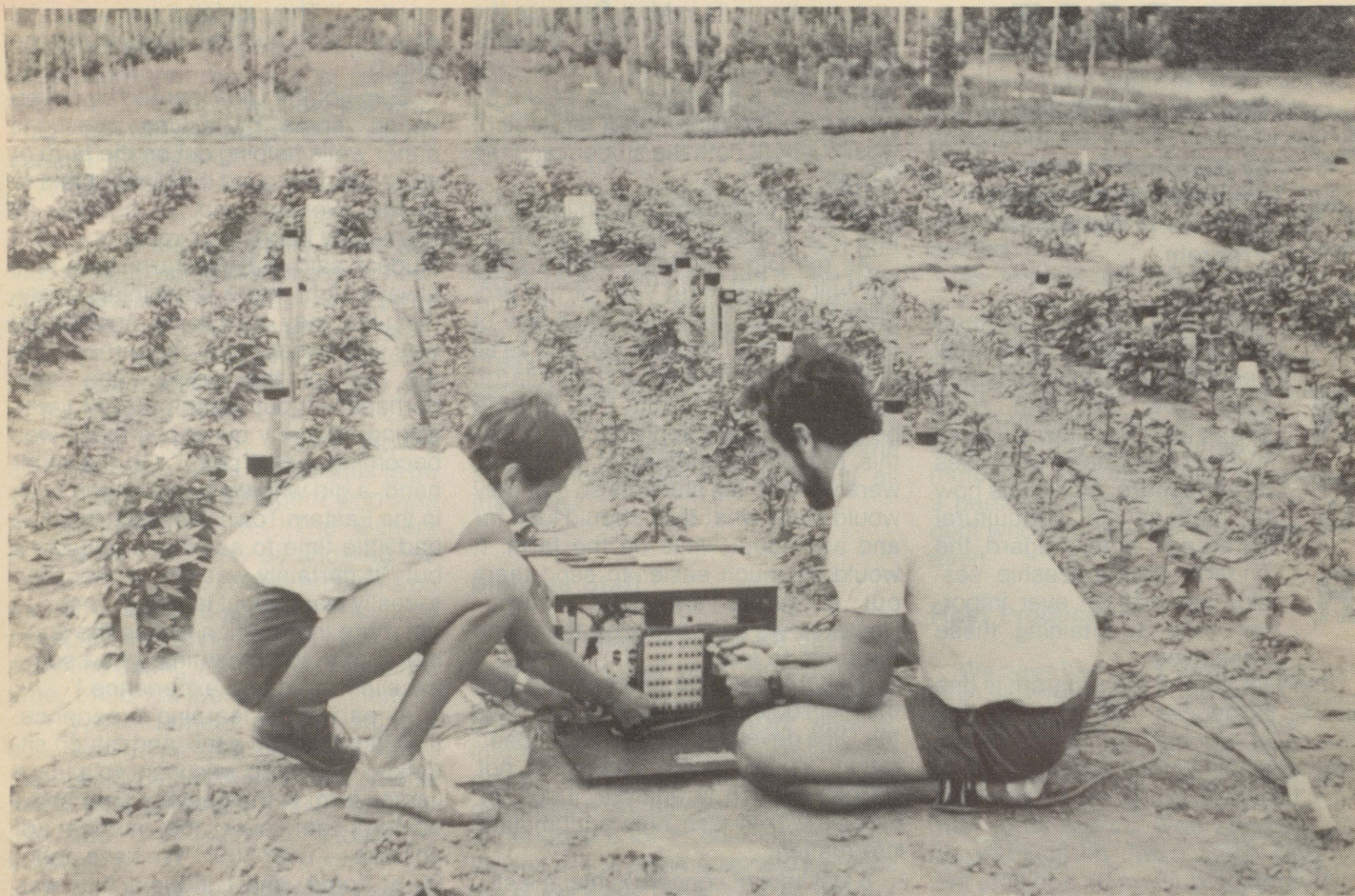


Zucchini from this grower's field (using mulches and mini-tunnels) were harvested a month before that of his competitors.

Indeed, for any crop, when unseasonably high temperatures are expected for several days following transplanting, the application of a tunnel should be delayed, since the heat may easily cause excessive transpiration.

All tunnels and row covers provide

shelter to the germinating seed or developing plant. In this context, they act as a small windbreak, preventing plants from cold, dessicating winds and reducing evaporative and transpirational water losses. They can also be an effective deterrent to air-borne



J. Argall, research assistant, and summer student, Francine Poissant, install thermocouples to measure soil temperature simultaneously for several mulch and row cover treatments.



Thermocouples and moisture probes permit the college's researchers to obtain information on soil temperature and water relations for mulches and row covers.

insect pests such as aphids and cucumber beetles. Row covers are likely to be of increasing interest for

many cool-season, direct-seeded, and transplanted crops, as their potential is fully realized. They are particularly

effective for those crops in which good weed control can be maintained, since it is best for crop growth if the row cover is maintained for as long a period as possible.

Several university and grower trials have revealed the potential of "plasticulture" for producing earlier crops of greater yield. At Macdonald College, we have demonstrated sizeable increases in early crops of direct-seeded cucumbers for tunnel/mulch treatments and of peppers, when mulched. Growers have seen advances of several weeks for the warm-season cucurbits and solanaceous crops. Floating row covers have increased the earliness of potatoes by two weeks and lettuce by 1-1/2 weeks. This method also shows much promise for other direct-seeded crops, such as beans and carrots. The use of mulches and protective crop covers has permitted Quebec growers to market a greater quantity of good quality vegetables over a longer period of time and many successes still remain to be achieved.

DIPLOMA

CORN Dip I's and Stage II

by Bertrand Farmer and
Jean-Michel Valiquette
Diploma in Agriculture
Program

The Macdonald College Diploma Program has now become a 2-1/2 year program. This new program (five semesters) will allow students to learn some basic principles of agriculture, as well as how to manage an agricultural enterprise. In this regard, the on-farm apprenticeship session will play an ever important role in attaining these objectives.

The first year of the program is one which introduces the Dips to the basics of agriculture: soil science, plant science, animal science, machinery, buildings, etc. In the second year the students now choose from four options: dairy, meat, horticulture, or cash crop production. In addition, the students will be involved in six on-farm apprenticeship sessions scheduled at different times during the program.

The interrelation between the material taught in class and its actual application on the farm is a primary concern. The challenge of showing the students how to **manage** an agricultural enterprise in a 28-month program is only possible if there is complete cooperation between students and their respective teachers — on the farm or in lectures.

The first apprenticeship session in this program (also called "Stage I") is undertaken by all students at the Macdonald College Farm when they first start in August. The overall objective of Stage I is to introduce them to all possible fields of agriculture. In addition we emphasize some very important points, such as farm safety, communications, and so on.

The next three apprenticeship sessions in this program are closely tied together. We will refer to them as Stage II, III, and IV. For the purpose of this article, we will concentrate on Stage II and Stage III which is an apprenticeship period of at least 13 weeks on a farm during the summer

and usually starts in May. Because the spring-summer period in agriculture is usually extremely busy, it was suggested that a period of two weeks on the farm in the winter prior to Stage III would benefit both the student and the farmer.

Stage II then becomes an introduction or a complement to Stage III.

As the Dip I students at this point are still in their first year of the program, as they have not taken any of their production courses yet, and as all of these students are not from a farm, we strongly believe that they have to be guided in their apprenticeship. For this reason, a number of questions were given to the students so that they would know what they should look for and ask about while on the farm. It would be much easier to send them out to farms and say "learn." However, we have to supply them with the tools to learn.

It should also be emphasized that the main objective of Stage II is to have the Dips develop their sense of observation. At this point, they have not learned enough to analyze, judge, or evaluate. They can only accumulate information.

A last item of concern is that the students have to perform both Stage II and Stage III on the same enterprise.

Having said all of this, Stage II began last February for all first-year students, for a period of two consecutive weeks.

On Monday, February 24, they were back at Macdonald College to continue the semester. A report for Stage II was also due on that day. Over the next two weeks their reports were evaluated, and the students were individually interviewed. In addition some of the producers that trained students were selected at random and contacted to hear their evaluation of Stage II. What were the general comments?

Students:

In general, they felt it was a great opportunity to acquire practical experience. Because the Stage was in February, it was felt that there was much better communication and much more time to discuss things. This wasn't true in all cases, specifically for a lambing operation. As one student emphasized: "having the Stage in February gave the producer and I an ideal chance to get to know one

another." They all felt there was a lot of work to do but that it was worth the effort!

Some of the Dips learned by observation, some by asking questions either while helping out on the farm or while sitting around the dinner table or in the evening, and, of course, all learned by hands-on experience. One student said that his farm host was always right there explaining everything that they were doing. Another girl was somewhat more concerned: "By the end of the week," she said, perhaps without reason, "I felt I was asking so many questions that I was becoming a real pain." On the other hand, a girl who was on a sheep farm in the Eastern Townships said that she had little time to ask many questions but "It certainly was the proper time to really learn about lambing. I hope to get more information during the summer, but in the meantime I had some excellent practical experience."

As part of the learning experience, the Stage can be a mix and match situation: One chap who went to a large Jersey farm in the Eastern Townships couldn't get over the number of animals — over 300. "We have about 60 at home, and I thought that was big," he exclaimed. "I didn't get the chance to see everything, but I'm certainly looking forward to spending the summer down there." Another on a Holstein farm near Clarenceville said that it was a valuable experience to be able to work on another farm and compare it to his home farm. An urban student may suddenly find that he is milking for the first time. "I had never milked a cow before February 10," said one Dip who went to an Ayrshire farm near Howick. "I feel I learned some very valuable information and even got the opportunity to discuss agricultural problems with other farmers when we went into town."

The duties varied as did the types of farming: from milking, feeding, cleaning, delivering and dehorning calves, chores in sick bay, being in charge of some 90 replacement animals, unloading fertilizer, and repairing silo unloaders. Winter vegetables were taken out of storage and got ready for delivery, greenhouses and boxes for seedlings were disinfected. One student seeded 1,000 lettuce seeds into oasis strips for a hydroponic growing system, while another found that fixing egg belts, running manure scrapers,

candling and packing eggs, and looking for sick and dying birds "made me very aware that there's a lot more to learn about egg production, but what I did learn will sure help me during my summer Stage."

And it wasn't all work as several students pointed out. "My Stage was both educational and enjoyable," said one student who spent his time on a cow-calf operation which was operated by a man "with a good sense of management who enjoys his living." Possibly that student has already learned one of the secrets of success!

"It's definitely the choice for my summer Stage, and I am anxious to go back," said a Dip I student who was on a Holstein farm. "The owners helped tremendously by showing me the various ways in which problems on the farm can be dealt with. They also accepted me, and I shared in all their activities during work and in our spare time. I had fun working with them."

A young female student from a suburban home said, "My host family took great pains to make me feel at home. The experience last February and later this summer should be invaluable."

"I was impressed with the owners as well as with their management practices," one student said of a Jersey farm in the Chateauguay Valley. Another was pleased to be asked for his opinion as well as how a particular thing may be done on his dad's farm. "We had good conversation around the dinner table," he said.

We quote, in part, from the comments one student had concerning his farm hosts: "I knew very little about dairy production but have gained a tremendous amount of new knowledge that I will find very useful in the years

to come. The owner is one of the smartest men I have met. I think he has learned everything there is to know about high quality breeding and maintains high standards of excellence. He has well thought out plans for the future. I am looking forward to having an experience filled summer working with him. I would also like to say that not enough credit is given to the farm wife. She was up every morning milking and then, after chores, preparing breakfast. Her knowledge and intelligence helped me a great deal with my many questions. Through their combined help, I hope to some day become as knowledgeable and proficient as they are."

Diploma Staff

We certainly realized we gave the students a lot of work; however, we simply wanted to trigger their sense of observation. The amount of work or information the student was able to extract during the two weeks was dependent on his/her level of farm experience prior to entering Stage II, as well as the communication between the student and the host producer (not forgetting the student's willingness to learn).

We also have to realize, as stated earlier, that the students only had one academic semester completed on rather basic training. The variety of farms involved has also brought in diversified feedback as far as practical work is concerned and, again, this reflects on the choice of February as being the best compromise period for holding Stage II. We can be flexible as to the level of reports from students who were very involved in a lambing

operation, for example, in comparison to those involved in routine chores and thus had more spare time for discussion and paper work. The questions we gave them were to be used as guidelines, and they allowed the student to show his or her creativity, and it has paid off as far as this aspect is concerned.

As lectures and Stages continue in the months to come the teaching staff of the Diploma Program will be able to keep track of the progress made by each student and, as far as the Stages are concerned, will immediately be aware of any student/producer mismatching. This also helps to develop a personal relationship with the student who can only gain from the situation.

Host Producer

We have had good, positive reaction from the producers we have talked with since the Stage. "I liked the time of year," one farmer said. "We had much more time to look at records, machinery, and so on."

Another man said, "No matter what time of year it is, it is always a pleasure to have a student on the farm and to be able to help him."

All were of the same opinion as the one who said, "When spring comes, it will be much easier to work with the student since we already know him."

In conclusion, we are all — students, farmers, and Diploma staff — very satisfied with the results of this first Stage II. We think the students have benefited from their apprenticeship session and, with the experience gained from this first winter Stage, we hope to have an even better one next year.

P.S.

Mac Memories from 1927 on

Please renew my subscription to the *Macdonald Journal* for another year. The Journal helps me keep in touch with the "Mac" I first knew in January of 1927 when I attended a two-week

short course for young farmers. This was a free trip won earlier at a three-day course in Lennoxville organized by the late W.G. MacDougall, agronomist, with the help of, among others, James Lang, of the Lennoxville Experimental Farm Poultry Department and L.V. Parent of the Wool Growers.

That fall (1927) I was fortunate to enroll in the Diploma course, Class of '29. The following year the late Kenneth Little of Hatley and I represented the Province of Quebec in the Provincial Judging competitions at the Royal Winter Fair — missing top spot by a

tiny margin. Those two winters spent at "Mac" are now just a pleasant memory.

Oh yes! I have been back several times over the years. Once with Alex Sim in his new "Ford V8" (Feb. '86 issue, p. 28) to a Farm Forum meeting with Dr. W. H. Brittain; another when our daughter graduated from the Teacher's course in the early '50s, plus a few trips to Holstein Judges Conferences and in 1953 when the College hosted the Quebec Provincial Holstein Picnic.

Among others, I enjoyed the articles

on the Ness family (Feb. '85 pp 16-25), especially that fine reproduction of Class of 1912 Reunion showing three former "Profs", i.e., Alex Ness, L.C. Raymond, Emile Lods; also L.V. Parent. Mrs. Parent (extreme left, front row), I may add, is a very dear friend of ours, having shared a room at Connaught Home in North Hatley with our aunt who died recently in her 96th year.

Our son, a Bell employee for nearly 30 years, bought the farm in '78. (Polled Herefords replaced the Holsteins.) My wife and I still live in the farm house. We celebrated our 50th Wedding Anniversary in June of '84 so we consider ourselves very fortunate.

Greetings to all my former classmates of Dip '29 and Farm Forum Friends who may still be reading the "Mac" Journal and to the many Holstein breeders I have known over the past years.

R.G. (Reg) Conner, Dip '29
North Hatley, Que.

The Early Years

... and may I say that I enjoy the Journal, especially parts relating to students of the earlier years. Keep up the good work.

Douglas G. Henderson, Dip '34,
BSc (Agr) '42,
Hawkesbury, Ont.

Letter to Professor Estey:

I recently read your FUN FACT FABLE FICTION column in the November issue of the *Macdonald Journal*, and am writing to you in particular about the "Lost Colony."

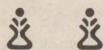
There is a whole other part to this story that I thought you may want to know about. I am of Croatian origin and, in specific, descended from coastal seafaring people. For years there have been many different stories told on the Croatian coast and islands about Captain White, and that fateful colony in the Carolinas.

Studies done by a professor of linguistics, that I read about years ago in a Croatian language newspaper from Pittsburgh, went further with this "Lost Colony" business, and demonstrated something like 20 or 30 nouns of Croatian origin used in the vernacular of the Croatan Indians of today. This, along with racial/ethnic characteristics uncommon to American Indians but

Seeking Solutions

Basic research at Macdonald College was given a boost recently with the announcement of research awards by the Natural Sciences and Engineering Research Council (NSERC). It is particularly exciting to see some of the new ideas of our younger staff being supported. Some examples from the Plant Biology NSERC awards include the following:

Dr. S. A. Sparace of the Department of Plant Science is looking at ways to advance the understanding of the biosynthesis and function of plant membrane lipids. His research will emphasize lipid metabolism in roots and the effects of disease on host plant lipids. Dr. Sparace hopes to look at lipid biosynthesis in plants, as well as by isolated organelles in the test tube. Further, plant pathogens will be examined for their effect on lipid metabolism and plant membrane functions. Results from this research will greatly contribute to the basic understanding of the biosynthesis and function of higher plant membrane lipids and will complement ongoing research by other scientists focused on related aspects of root physiology, membrane function, and plant disease.



Dr. D. J. Donnelly of Plant Science plans to develop rapid procedures for transplanting tissue cultured (micro-propagated) plantlets of red raspberry and strawberry. Methods for maximizing ex vitro transplant success will include evaluation of foliar anatomy based on light and scanning electron microscopy, foliar chemical analysis, various growth parameters, and as-

sessment of photosynthesis using infrared gas analysis.

sessment of photosynthesis using infrared gas analysis. It is expected that improvements in culture and transplant methods will be of interest to the nursery industry where decisions on culture are made empirically. Techniques for refining tissue culture and transplant conditions should increase the efficiency and productivity of existing micropropagation facilities and are likely to strengthen this relatively new industry.

sessment of photosynthesis using infrared gas analysis.

It is expected that improvements in culture and transplant methods will be of interest to the nursery industry where decisions on culture are made empirically. Techniques for refining tissue culture and transplant conditions should increase the efficiency and productivity of existing micropropagation facilities and are likely to strengthen this relatively new industry.



Production of nitrogen fertilizer is an energy intensive process, consuming large amounts of fossil fuels. **Professor D. L. Smith** of Plant Science feels that biologically fixed nitrogen can be transferred from legumes to associated grasses through hyphae of mycorrhizal fungi. Study of the mechanism of this transfer will make it possible to know how this activity can be maximized, either by management of environmental and production practices, or by the combination of genotypes most active in nitrogen transfer.

Transfer of nitrogen from legumes to associated grasses has been observed in the field; however, the mechanism of this transfer is not known. Transfer of radioactive isotopes between different species of plants has been demonstrated to occur through the hyphae of mycorrhizal fungi infecting adjacent roots of the plants. Increased uptake of soil nitrogen by plants infected with mycorrhizal fungi has been shown. Given that mycorrhizal fungi can transport nitrogen from soil to plants and phosphorus between plants, it is probable that they can and do conduct nitrogen between plants. Improved understanding of nitrogen transfer, its mechanisms, and its manipulability would allow a lessened dependence on nitrogen fertilizer by non legume crops.

(Perhaps some day you may want to look into how the Cravat (Cravatte) went from Hrvatska (Croatia) to Paris to become the cursed necktie that I now have to wear to work everyday. I've never forgiven my ancestors for that one!)

Anton Angelich, BSc (FSc) '73
Riverdale, New York.

"I was very flattered to win the Gold Key Award," Marc told me. You can get so involved in activities that you can see your marks slipping and you wonder if it is worth while, but you keep plodding along. Then something like that comes along and it really is inspiring. It confirms the fact that 'yes' it is definitely worth it."

Before Marc became President he was on the CC committee so he is well versed on the operations of that building, and it is with mixed emotions that he has been studying a plan for the students and the college to exchange buildings: the Centennial Centre for Harrison House. Marc is one of the members of the space committee, a student committee which is made up of Peter Enright, the Vice President, business operations, Remi Gauthier,

the Senate Rep., Laurie Baker, the Faculty Rep., and Alan Charade, Manager of Business Operations for Macdonald. "We've had some very productive meetings and some very pleasant post meetings," Marc said. "Looking back, it certainly was a blessing when the CC was given to the students for their use. Unfortunately, over time the population has gone down (Education moved downtown) and trends have changed. We also had two years of pure misfortune which have led us to the point where we can no longer sustain ourselves. We could sustain ourselves as a business operation but that is not what we are here for. The idea is to set ourselves up where the maximum of student effort goes into creativity and not just running a business. The Centennial Centre is taking up so much of student representatives' time that we are losing our raison d'être which is to serve the students and not the building."

Marc pointed out that it was a big decision, one that could either make or break the future of the society. "But," he said, "we are confident that we are going to make it. Harrison House has a very appealing atmosphere and I think we can turn it into a real students' centre. A vote has been taken and the overwhelming majority were for the change. The Centennial Centre would remain our building and we would have the option to move back into it after 10 years. We're not renting it and it is not an exchange; we're simply swapping space for as long as it suits both parties. If another faculty were to move on campus, we would have the option to move right back in."

The Centennial Centre or Harrison House. I think it would be safe to say that Velma would say buildings don't matter; people do. One of her final efforts last year was a big fund-raising bash with three bands in aid of cerebral palsy. This event involved both Mac and Jac. "If we can have a party, improve relations with John Abbott, and help the victims of cerebral palsy, why not?" Why not, indeed. The do was a great success and about \$1,000 was raised.

Velma summed up her feelings this way: "Different things may be important to today's students but the Mac spirit is still here." It is, indeed, thanks to such students as last year's Gold Key Recipients.

SILO[®] GUARD

For over 20 years profitable livestock producers have relied upon "SILO GUARD" for treatment of all types of silage. Now recent controlled research at McDonald College, Dept. of Agricultural Chemistry and Physics has proven "SILO GUARD" to be effective on high moisture hay as well.

"SILO GUARD" is easy to apply through the use of a Gandy Applicator to either round or square bales resulting in a better quality hay.

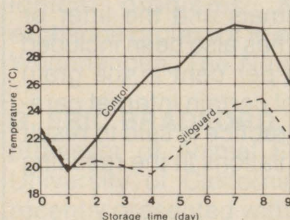
Through a unique patented process "SILO GUARD" helps reduce heating and mustiness in baled hay. (max. 25% moisture). This means you can bale sooner without worrying about losing valuable leaves and small stems.

"SILO GUARD" a safe, reliable, non corrosive food grade product is one of the many ISF products available. Consult your rep for further details. Trust ISF, Quality products for over 80 years.

Effect of SILO GUARD on the weight loss and dry matter loss of baled hay!

Treatment	Weight Loss (%) (average 5 bales)	Dry Matter Loss (average 5 bales)
Control	22.7	13.6%
Silo Guard	16.0	6.6%

Results of research conducted at McDonald College on hay baled at 22.5% moisture. Dry matter loss was reduced by over 50% and weight loss by 30%.



Effect of Siloguard on the temperature of baled hay.



**INTERNATIONAL
STOCK FOOD** CO.
LTD.

P.O. BOX 1024, CAMBRIDGE, ONT.
N1R 5Y2 (519) 622-2730

newsmakers

on campus

Answer to Biblical Riddle, Fun Fact Fable Fiction, (see Genesis 4: 1-10)

Eve was never born, she was created. Adam's "mother" was the earth. Their son Abel was murdered. Therefore, using a bit of poetic licence, one can say that Abel was born before his mother, died before his father, and was buried in the body of his grandmother, the earth.

A VISIT TO ITALY

The Lyman Museum and Research Laboratory was represented by **DRS. KEITH KEVAN**, Director, **VERN VICKERY**, Curator, **GEORGES HSUIN** and **Miss JIN, XING-BAO**, of the Entomological Institute, Academia Sinica, Shanghai, China, who is visit-

ing the Museum for about a year, at the "Symposium on Phylogeny, Taxonomy and Evolution of Orthopteroidea," held at the University of Siena, Italy, last January. The Symposium, which was a resounding success, was organized in honour of Dr. Felice Capra, a renounced Italian orthopterist, on the occasion of his 90th birthday. On his birthday, Dr. Capra appeared and presented a well thought out scientific paper.

Some 70 prominent orthopterists from many countries around the world attended the Symposium. The entire program was held in a 14th century monastery at Pontignano, now owned and refurnished by the University of Siena, 10 km from the city of Siena.

Dr. Kevan presented a paper entitled "The Orthoptera, s. str., and Grylloptera, or Grigs of Micronesia — a

preliminary survey." Dr. Vickery's first presentation was entitled "The Northern Nearctic Orthoptera, their origins and survival." Dr. Hsiung spoke on the present state of orthopterology in China and Miss Jin gave a paper on distribution of the genus *Phisis*, a genus of predatory Grylloptera, in the Pacific Islands. Dr. Kevan was Chairman for one half-day session. Dr. Vickery, President of the Orthopterists' Society, chaired the final session, a discussion of the future role of the Orthopterists' Society. A paper entitled "Orthopterology in Transition (or P.A.A.S. is Prologue)" by Dr. S.K. Gangwere and Dr. Vickery was given. The P.A.A.S. (Pan American Acridological Society) became the "Orthopterists' Society" on January 1, 1986. It was enlarged in scope to include not merely acridid grasshoppers but all orthopteroid orders of insects. It has also expanded geographically, no longer serving only North and South America, but now encompassing the entire world. The Society has members from 29 countries and is expanding rapidly. In its nine year history the P.A.A.S. has sponsored a training program which supported 17 student orthopterists from Latin America to study for periods up to four months at various institutions in North America. The Lyman Museum has had several of these students for varying periods of time. If sufficient backing can be obtained, it is anticipated that the training program will become world-wide. Dr. Vickery will be visiting Italy again in September to attend another conference to be held in Siena. At that time he will have discussions with officials of FAO in Rome with a view to obtaining FAO assistance for the Orthopterist's Society training program.

SIMON BEDASIE has successfully completed all the requirements for the MSc degree and the Department of Plant Science report that he has returned to his position with the Ministry of Agriculture, Lands and Fisheries in his native Trinidad.

The Department of Food Science and Agricultural Chemistry said farewell to **HERMAN NYOTU** who has returned to Kenya after completing the requirements for the MSc degree.

EUGENE DONEFER, Director of McGill International has been elected

(Continued from page 14)

crevices, and other areas where insects might hide.

Whereas with a contact pesticide the insect dies quite quickly, with DE control may take several days. The more important difference is that the effect of the protection provided by the chemical is short-lived, whereas DE will control the pests as long as the powder remains. In this respect DE is an ideal pesticide; it is residual but non-toxic. The only health precautions that need to be taken are that if large areas are being treated with a power duster, the applicator should wear a mask to prevent inhalation. Because DE is made of silica, people sometimes mistakenly think that DE causes silicosis. As indicated above, however, pesticide quality DE is usually over 97 per cent amorphous silica, which does not cause silicosis, which is associated only with crystalline silica. Indeed, inhalation of road dust and grain dust is likely to be more harmful than DE.

In the field DE has potential in certain restricted uses such as treating the bark of fruit trees in spring using an electrostatic duster, or the roots of plants when transplanting; but

because it is non-selective and also kills beneficial insects, its use here should be carefully controlled.

Another use is in animal production units for the control of external parasites and flies. This is achieved by dusting the animals and the litter or bedding area. It has also been included in the diet (two per cent in the grain ration) to control certain internal parasites, and this practice is said to result in lower fly populations in the resulting manure.

In the future, improvements in the formulation of DE to reduce dustiness and more effectively lure insects to it to ensure their rapid exposure will no doubt extend its use. In the meantime, it is perhaps the safest effective pesticide for use in the home and has a valuable place in the protection of stored food and control of insects in animal production units.

DE may be purchased in Quebec from P.I.P. Products (514-463-2650), and in small quantities from Ecological Agriculture Projects, Barton Building (B1-022), Macdonald College (457-2000, local 190), and from some garden centres.

Chairman of the Board of Directors of the World Food Day Association of Canada.

The Executive meeting of the Canadian Society of Soil Science was held at Macdonald College in January and was hosted by the new President, **DR. A.F. MACKENZIE** of the Department of Renewable Resources.

off campus

Mac Alumni at Beef Meeting

JIM HOUSTON, Secretary of the Quebec Angus Association, told us that it was like a mini Mac Reunion last February when the Joint Beef Breeds Conference was held in Truro, N.S. Jim had lunch with NSAC Registrar **PETER** and **MARG HAMILTON**, and chatted with, among others, NSAC Principal **HERB MACRAE**, Assistant Deputy Minister of Agriculture for N.S., **WALTER GRANT**, **COL. DON THOMAS**, who owns the Stonehouse Inn near Truro and is also an auctioneer, and **PAUL EATON**, who has recently retired. Jim said that Paul stayed with the Houstons when he was a student here at Mac. Two of the speakers were also Mac grads: **TOM MACINTYRE**, of the Research Station at Nappan, and **HENRY GARINO** of the Department of Animal Science who spoke on "Recent Developments in Animal Science: How to manage them for beef production."

Henri said he also saw **Marg Zillig**, Teaching Assistant, at NSAC and they discussed academic and other more important matters.

A New Career

"I had retired, moved back to St. Stephen, and was anticipating a very quiet existence doing some voluntary work, such as joining the historical society. And then, suddenly, I was asked to manage the museum and I found that I was involved in a whole new career. I love doing this work, love the fact that you can switch careers later in life, and now look forward to a third career whenever that presents itself," says **MARION BAIN**, BHS '39, Curator of the Charlotte County Historical Society Museum in St. Stephen, N.B., in a January issue of the *Saint Croix Courier*.

Marion is beginning her seventh

year with the museum. Before retiring Marion, who grew up in St. Stephen, was on the staff at McGill University in Montreal where she taught public health nutrition.

"Becoming involved in the museum has been a real privilege, even though I am more of a director than a curator," she confides. "Living in Montreal, involved with food health studies and things such as pre-natal nutrition, did not prepare me for work in a museum on the banks of the St. Croix River."

DR. JACK AITKENS, MSc (Agr) '47, retired last fall from his position as contracts analyst in the Program Coordination Directorate of Agriculture Canada's Research Branch. Jack had 36 years of service in the Canadian government.

JOHN McLEAN, BSc (Agr) '47, from Eureka, Nova Scotia, has recently been elected president of the Nova Scotia Federation of Agriculture.

EDWARD MUNRO, BSc (Agr) '48, retired last fall from his position as manager of CIL's "Agromart" plant in Onslow.

DR. KEN CORBETT, BSc (Agr) '50, who is at the University of Florida, is the author of the text "Plant Virology." The author of numerous research papers dealing with a variety of virological problems, Ken was an exchange professor in plant virology in Wagenengen, The Netherlands.

G. ERIC BRADFORD, BSc (Agr) '51, professor of Animal Science at the University of California, Davis, was recently presented with the J.R. Prentice Memorial Award for outstanding research in animal breeding and genetics.

DR. KENNETH JENKINS, BSc (Agr) '51, and Mike Hidioglou of the Agriculture Canada Research Branch, received the 1985 Gold Medal Award from the Professional Institute of the Public Service of Canada at their annual meeting last November. In presenting the award, president Jack Donegani stated that their outstanding work on selenium nutrition and metabolism was an important contribution to the advancement of the science of animal nutrition in Canada

and the world. In 1965 the two men formed a strong research team to examine the nutritional and biochemical roles of selenium and vitamin E in animals. They discovered that a lack of selenium in the diet of farm animals in Canada, interacting with other dietary and environmental factors, was causing a wide variety of serious nutritional diseases. Problems included nutritional muscular dystrophy in calves and lambs; liver and heart disorders in pigs; and meat discoloration and a low rate of eggs hatched in poultry. Mike and Ken played a leading role in clearly identifying the problems and devising practical solutions that were both effective in livestock and provided safe selenium residues in meat for the Canadian consumer. As a result of their continued perseverance and research, regulatory officials approved the use of selenium in livestock diets and producers of meat and other animal products are saving millions of dollars each year. Mike and Ken are recognized internationally for their original research on the metabolism of trace minerals in animals, particularly on the formation and transport of selenium metabolites in body fluids and tissues. Indeed, their work on selenium has been honoured by a growing number of awards in Canada, the United States, and France — a tribute to their expertise and resourcefulness. (From *Tableau*, January 1986)

CHARLES TANNER, BSc (Agr) '56, has retired from his position as agricultural representative of Leeds County, Ont., after 29 years of service with the Ontario Ministry of Agriculture & Food.

DAVID CLARK, BSc (Agr) '52, MSc (Agr) '53, PhD '57, retired from his position as Director, Bureau of Microbial Hazards, Food Directorate, Health Protection Branch, after 27 years as a Food Microbiologist with the federal government. He is the author or editor of 60 publications on food microbiology. Dave served on many Canadian and international commissions on Food Science and was awarded the Distinguished Service Medal of the International Union of Microbiological Societies in 1982. In May, 1984, he was also awarded the William J. Eva Award of the Canadian Institute of Food Science and Technology in recognition of the honour he has

brought to Canadian food science and technology through outstanding research and service.

JOHN PICK, BSc (Agr) '55, has been named president of Diversey Corp., a subsidiary of the Molson Companies Ltd.

LEITH THOMPSON, BSc (Agr) '56, former head of the Forage and Livestock Section at Charlottetown's Agriculture Canada Research Branch, has been appointed assistant director at the station. Over the years he has conducted research on a wide variety of problems related to insect infestations and diseases in forages, cereals, small fruits, and potatoes in the Maritime region. As well, he has been studying chemical and biological means of controlling such pests and diseases.

DR. RICHARD LAYNE, BSc (Agr) '59, a stone fruit breeder, and Chin Tan, an agrometeorologist, received the Carroll R. Miller Award of the American Society for Horticultural Science for peach research. They were honoured at the Society's annual meeting in Blacksburg, West Virginia.

PAUL NIEDERMAYR, BSc (Agr) '59, was recently appointed president of Schenley Canada Inc. Distillers.

RALPH MACARTNEY, BSc (Agr) '66, regional beef specialist for the animal industry branch of the Ontario Ministry of Agriculture & Food, was appointed program manager for the incentives and performance testing programs. This program includes ROP programs for sheep, swine, and beef cattle, the Red Meat Plan development initiatives and the administration of the Red Meat Centre.

DR. ROBERT COFFIN, BSc (Agr) '71, MSc (Agr) '74, Agriculture Canada, has been appointed adjunct professor in the Department of Horticultural Science and Food Science at the University of Guelph for a three-year term.

RON PARKER, BSc (Agr) '74, was recently appointed dairy cattle specialist at the Ontario Ministry of Agriculture & Food office in Brighton, Ont. Ron, who worked for the ministry as a dairy contact in Middlesex for the past two years, has provincial respon-

sibility for dairy young stock management in his new position. In addition, he will be working in the area of dairy cattle nutrition as well as breeding and management of the dairy herd. Ron already has a knowledge of the local community in Northumberland, as he previously worked in the ministry's Brighton office as a farm management specialist. He will be available for consultations with farmers, ministry staff and agribusiness people.

WELDON SMITH, BSc (Agr) '75, is the 4-H representative for Central Nova Scotia. He was formerly the 4-H rep in Bridgewater.

SAMUEL ASIEDU, BSc (Agr) '76, MSc (Agr) '78, PhD '85, has accepted the position of Potato Extension Specialist with the Plant Industry Services Branch of the P.E.I. Department of Agriculture.

There were wedding bells on May 25, 1985, for **GERALD POST**, BSc (Agr) '81 and **YVONNE THYSEN**, BSc (Agr) '82. (See Woodsmen Alumni article in this issue.)

SHAWN DONKIN, BSc (Agr) '82, is now working towards a Master's degree in dairy nutrition at Pennsylvania State University.

JIM MCCARTHY, BSc (Agr) '82 was appointed by the Maritime Extension Committee to the position of Holstein representative for the Maritimes. Jim, lives in Riverview, N.B. After graduation Jim became an AI technician in St. John's, Nfld. He promoted not only AI service but also the importance of replacement stock and genetic quality within herds, thereby increasing the number of animals in that area to an all time high. Jim is encouraging grass-roots participation from all Holstein breeders and attends meetings and shows for both young and old.

DONALD GORDON ANDERSON, BSc (Agr Eng) '83, who was working as a representative for the Port William Agency in the Sussex, N.B., area, has recently been promoted and transferred to Port William, N.S.

REID MacDIARMID, BSc (Agr) '84 has been appointed to the position of territory manager for Northern Alberta for the Pfizer Animal Products Division. Reid will live in Edmonton.

REED BOWMAN, MSc (Agr) '85, is now engaged in research into the nesting ecology of Ravens in the Snake River Birds of Prey Conservation Area in Idaho.

DANIEL CARRIERE, MSc (Agr) '85, is undertaking contractual work for the Canadian Wildlife Service's Toxicology Division in Ottawa-Hull.

JIM DUNCAN, MSc (Agr) '85, is continuing his studies at the Macdonald Raptor Research Centre, studying Great Grey Owls in Manitoba.

MORVEN McLEAN, BSc (Agr) '85, who is now working on her Master's degree at the University of Guelph, placed second in a North American essay contest held by the Weed Society of America. The three winning essays are to be published in the inaugural issue of a journal to be published by the Weed Science Society.

GERARD PICKARD, BSc (Agr) '85, of Bath, N.B., has been named technical sales representative for the Maritimes by BASF Canada Inc. In that position he will work with farmers and farm supply dealers in New Brunswick, Nova Scotia, and Prince Edward Island. Gerald is a member of the Canadian Agricultural Chemical Association.

The W.H. Brittain Memorial Fund at N.S.A.C.

In the January 1986 issue of the Nova Scotia Agricultural College *Alumni News* we were pleased to read the headline "The W.H. Brittain Memorial Fund" and quote in part from the article:

"On the 28 July 1984, the A.D. Pickett Entomological Museum and Research Laboratory was officially opened at the Nova Scotia Agricultural College. (See *Macdonald Journal*, May, 1985.) Dr. Pickett, wanting to acknowledge the support and inspiration he received from W.H. Brittain, has recently asked N.S.A.C. to establish the W.H. Brittain Memorial Fund. To do so, he donated a substantial sum of money, the interest to be earmarked to subsidize Museum projects dealing with two economically important insect families, i.e., the cicadellidae and the miridae.

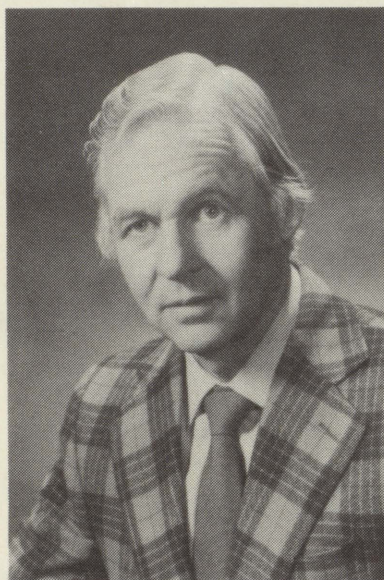
When one compares biographical notes on these two great Nova Scotia

scientists, one is not surprised by this latest gesture of Dr. Pickett. Not only did Brittain hold earlier the same positions as Pickett did later, both were Provincial Entomologists and Professors of Zoology and Entomology at N.S.A.C., but it seems as if Pickett was following him as well at various other locations. This perhaps lesser known aspect of their relationship is particularly interesting and is as follows.

"Brittain was professor at N.S.A.C. from 1913 to 1926. Pickett was a student here from 1923 to 1925. Then Brittain became head of the Department of Entomology at Macdonald College of McGill University from 1923 to 1933. Again Pickett followed and was a student there from 1927 until 1929, when he received the BSc (Agr) degree with honours in entomology. Later on, Brittain became Dean and Vice Principal at Macdonald College from 1934 to 1955, during which period he was also chairman of the Department of Zoology and would see the world renowned Canadian Institute of Parasitology initiated. In 1936 Pickett was granted the MSc degree from McGill, his thesis work being on the apple maggot. Lastly, both these scientists were granted DSc (Hon) degrees, Brittain by the University of British Columbia in 1949, and Pickett by McGill University in 1959. I do not wish to use the word mentor, only 11 years separate these two men, but rather the words colleague, collaborator and most certainly friend of many years."

deceased

It is with regret that we announce the death on April 10, 1986, at Ingersoll, Ontario, of Dr. J.W. Pullin, after a lengthy illness. A friend and former colleague at Macdonald, Dr. Doug Dale, now in Ottawa as Special Projects Officer, Bureau of Veterinary Drugs, National Health and Welfare, shares his memories of Bill Pullin with Journal readers.



J.W. PULLIN

For nearly 30 years J.W. Pullin, "Bill" as he was known to his many friends, was a familiar figure on the Macdonald campus. Bill was a member of the clan by affiliation rather than graduation or employment. In 1951 he was transferred to the Branch Laboratory of Animal Pathology at Macdonald College from the Animal Diseases Research Institute of the Canada Department of Agriculture where he had worked since graduation from the Ontario Veterinary College in 1936. Although the transfer was to be only temporary, it evolved that Bill would live out his career until retirement in 1979 as officer in charge of the Macdonald Branch Laboratory.

His work kept him in close contact with many of the teaching, research, and administrative college staffers, and his wide social interests firmly established him in the minds and hearts of all campus residents. All his life a bachelor, Bill lived until retire-

ment at Brittain Hall staff quarters. As an accomplished horseman, an excellent dancer, and a smooth and sophisticated downhill skier, Bill was popular with the Macdonald crowd of all ages. Those of us who counted ourselves amongst his closest friends will perhaps remember him best as an ardent outdoorsman, an excellent shot, and a keen hunter. To more than a few of his companions his name will always be synonymous with autumn leaves, whirring wings, and fleeting silhouettes against a predawn sky.

In his role as a laboratory based veterinarian, Bill's reputation as an astute diagnostician made his services avidly sought by eastern Ontario and western Quebec livestock producers. Born and raised on a dairy farm at Sweaburg, Ontario, Bill never lost his love for agriculture.

Throughout his career he found time to conduct and direct several important research projects, primarily in the area of veterinary parasitology. As a result of this activity, he contributed a number of papers and articles to the scientific literature.

A diplomat by nature, Bill made few, if any, enemies. He saw the best in people and spoke ill of no one. Bill was one of those rarities among men today. He was in every sense a gentleman. He will be sorely missed by all who knew him.

Condolences are extended to his surviving family and especially to his sisters Mrs. Ida Stevens of Burgessville, Ontario, and Mrs. Waity Hodges of Sweaburg, Ontario.

O.W. LACHAINE, BSA '22, of Ottawa, Ont. No further information.

DR. HENRY J. GRIFFITHS, PhD '39, at St. Paul, Minnesota, on January 28, 1986.

DAVID LEBLOND, MSc (Agr) '42, of Quebec City, on September 22, 1981.

ROLAND W. NASON, BSc (Agr) '47, of Fort Garry, Manitoba. No other information.

DR. AKHAND P. SINGH, MSc (Agr) '70, PhD '72 of Ridley Park, Philadelphia, in June 1985. (He died in the Air India crash.)

LINDA G. (WHITEWAY) MEERBURG, BSc (Agr) '75 of Montague, P.E.I., on July 12, 1985.

JANET L. MILLER, BSc (Agr) '79, at London, Ontario, on February 23, 1986.

WHAT'S HAPPENING?

Where are you? What are you doing? What have you heard about your fellow grads? New jobs, promotions, awards, retirements. From a first job, through all the steps up the ladder, to retirement, and post-retirement — keep us informed on what's happening so we can pass the news along on these pages to your fellow grads. Any news you would like to share with us would be welcome. We delight in hearing from you and about you. Send information to Hazel M. Clarke, Editor, Box 284, Macdonald Journal, Macdonald College, Que. H9X 1C0



MACDONALD WALL HANGING: ORDER YOURS TODAY

Many of you may have seen the beautiful red and white woven wall hanging of the McGill University Coat of Arms. We at Macdonald College now have our own 27- by 36-inch wall hanging of our crest in the Macdonald colours of green and gold on a white background. The pile is about one half inch thick.

Is there a Macdonald graduate on your gift list? This wall hanging will make a lasting gift that will increase in value as the years go by. Ideal for someone who is already a graduate or will be soon. Buy yourself a gift! You will be proud to hang it in your home or office.

We are excited about the Macdonald wall hanging and hope that you will be, too. Please use the order form below to

ORDER YOURS TODAY.

PLEASE PRINT CLEARLY

☐ Mr. ☐ Mrs. ☐ Miss

NAME IN FULL _____

Address _____

City _____

Province _____ Postal Code _____

Price each \$129.95

Please make all cheques or money orders
Payable to:

MACDONALD COLLEGE

Mail Order to:

Extension Service
Box 284

Macdonald College
21,111 Lakeshore Rd.,
Ste. Anne de Bellevue, Que.
H9X 1C0

Please allow three (3) weeks for delivery